VOLUME 7 • JUNE 1952 • NUMBER VI

LIBRARY
BOSTON UNIVERSITY
SCHOOL OF MEDICINE

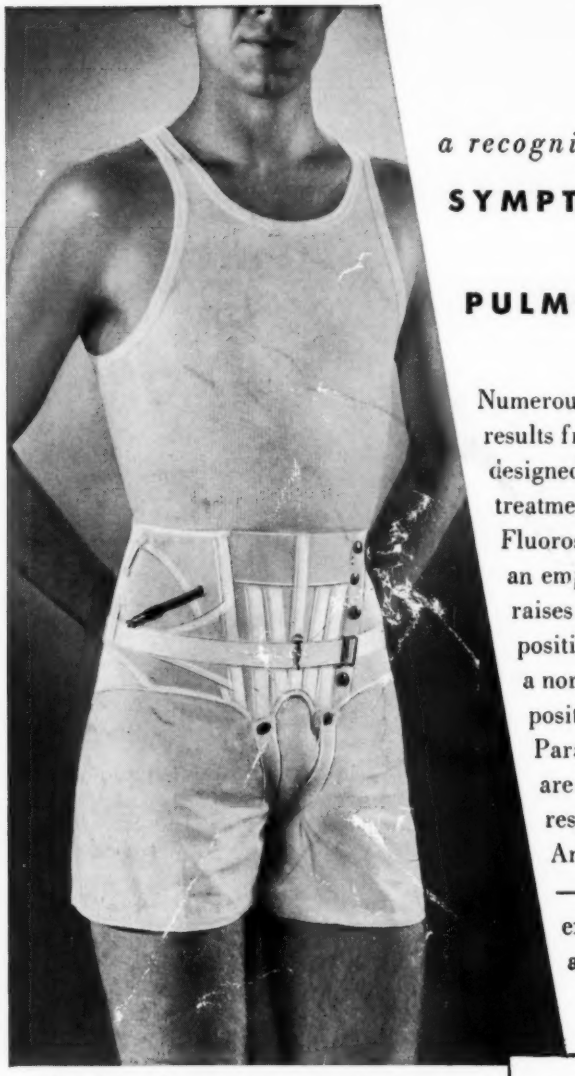
JUN 28 1952

Journal of the AMERICAN MEDICAL WOMEN'S ASSOCIATION

Library of Boston University
School of Medicine
80 E. Concord St.,
Boston, Mass.

Official Publication of

AMERICAN MEDICAL WOMEN'S ASSOCIATION, INC. 1915



a recognized aid in the

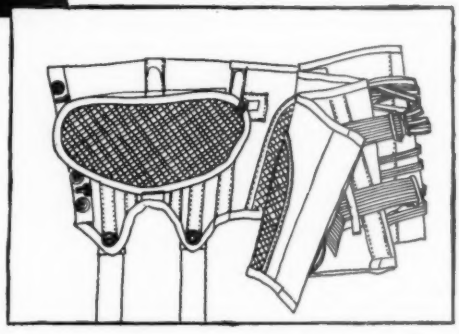
SYMPTOMATIC TREATMENT

of

PULMONARY EMPHYSEMA

Numerous authorities report beneficial results from the use of a properly designed abdominal binder as an aid in the treatment of pulmonary emphysema. Fluoroscopy of patients wearing an emphysema binder shows that it raises the diaphragm toward its expiratory position and helps support the muscle in a normal dome shape. From this position contraction can again occur. Paradoxical movements of the diaphragm are largely prevented and respiration difficulties alleviated. An ingenious inflatable pressure pad — in complete control of the patient — extends its use for those with scaphoid as well as normal abdomens.

The inflatable pad in the Camp Emphysema Binder has a steel plate on the belt side so that all pressure is directed inward. A valve and small detachable bulb for reducing and increasing pressure with posture changes and distention following eating are patient conveniences. The lower edge of the pressure pad comes just above the symphysis pubis; the top falls below the umbilicus.



S. H. CAMP and COMPANY, JACKSON, MICHIGAN

World's Largest Manufacturers of Scientific Supports

Offices in New York • Chicago • Windsor, Ontario • London, England

new pediatric studies[1] prove

DESITIN®
OINTMENT
the pioneer external cod liver oil therapy

"soothing, drying and healing"[1,2] *in*

infant dermatoses

protective — Desitin Ointment "showed definite prophylactic properties" with the incidence of nonsuppurative dermatoses about one-third that of control group.

therapeutic — Desitin Ointment "was used successfully" in the treatment of both non-infectious dermatoses and various infections of the skin in the newborn infant.

in **diaper rash**
• **exanthema**
• **non-specific dermatoses**
• **intertrigo** • **chafing**
• **irritation**
(due to urine, excrement, chemicals or friction)

Desitin Ointment is a non-irritant blend of high grade, crude Norwegian cod liver oil (with its unsaturated fatty acids and high potency vitamins A and D in proper ratio for maximum efficacy), zinc oxide, talcum, petrolatum, and lanolin. Does not liquefy at body temperature and is not decomposed or washed away by secretions, exudate, urine or excrements. Dressings easily applied and painlessly removed.

Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

write for **samples** and reprints

DESITIN CHEMICAL COMPANY •
70 Ship Street • Providence 2, R. I.

1. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediat. 68:382, 1951.
2. Behrman, H. T., Combes, F. C., Bobroff, A. and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.

four-way gain in topical therapy

Neomycin is a new wide-range antibiotic for external use against skin infections.

1. Neomycin is highly effective against both gram-negative and gram-positive organisms.

2. The incidence of sensitization (allergic) reactions to neomycin is extremely low.

3. Absorption of neomycin is negligible, so systemic toxic side effects are substantially eliminated.

4. Neomycin retains antibacterial potency in the presence of exudates and products of bacterial growth.

Neomycin

For therapy of specific or mixed cutaneous infections –

Myciguent Ointment – 5 mg. per Gm., in ½, 1 oz. tubes, and 4 oz. jars.*

For rapid control of eye infections –

Myciguent Ophthalmic Ointment – 5 mg. per Gm., in 1 drachm tubes.*

For preparation of solutions for topical use only –

Neomycin Sulfate, Sterile Powder – Vials containing 0.5 Gm.

**Trademark*

a product of

Upjohn

Research *for medicine . . . produced with care . . . designed for health*

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Journal of the AMERICAN MEDICAL WOMEN'S ASSOCIATION

Official Monthly Publication of the American Medical Women's Association, Inc.

VOLUME 7 | JUNE 1952 | NUMBER 6

SCIENTIFIC ARTICLES

Hematologic Therapy: Some Recent Advances, *Abraham M. Frumin, M.D., Mildred C. J. Pfeiffer, M.D., Mary Helen Cameron, M.D., B. Calesnick, M.D., and Eleanor Smith, M.D.* 197

Effects of Anesthesia, *Esther M. Greisheimer, M.D., Ph.D.* 201

SPECIAL ARTICLES

Value of Regular Monthly Staff Conferences: Obstetric, Gynecologic, and Pediatric Departments, *Sister M. Eugene, R.N.* 213

Medical Women in Israel: Their Fields of Work, *Golda Fischer, M.D.* 215

REGULAR FEATURES

World Health Organization: Current Activities 218

Opportunities for Women in Medicine 220

Album of Women in Medicine

Mary Ryerson Butin, M.D., *Elizabeth Bass, M.D.* 222

Alma Matilda Lautzenheiser Rowe, M.D., *Elizabeth Bass, M.D.* 223

News of Women in Medicine: Blackwell Citations of the New York Infirmary, 1952, *Marcelle Bernard, M.D.*. 224

These Were the First, *Elizabeth Bass,* M.D. 227

Letters to the Editor 228

Book Notices 229

Current Publications of Women in Medicine 231

Scientific News Notes 236

Editorial Forecast 236

AMERICAN MEDICAL WOMEN'S ASSOCIATION

Message from the President, *Evangeline Stenhouse, M.D.* 221

MISCELLANEOUS

Editorial Board ..... Adv. p 4

Officers of A.M.W.A. ..... Adv. p. 6

Branch Officers ..... Adv. p. 8

Index to Advertisers ..... Adv. p. 10

International Correspondents ..... Adv. p. 12

Neither the Editor nor the Publisher of the Journal of the American Medical Women's Association is responsible for any statements made or opinions expressed by any of its contributors.

JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION is published monthly by the American Medical Women's Association, Inc., at 136 4th Ave., Nashville 3, Tenn. Entered as second class matter at the Post Office at Nashville, Tennessee, under the Act of August 24, 1912. Acceptance for mailing at special rates of postage provided for in Section 1102, Act of October 8, 1917, and authorized July 15, 1918.

Copyright 1952 by the American Medical Women's Association, Inc.

Subscription. $5.00 per year; $1.00 single copy.

EDITORIAL AND ADVERTISING OFFICE, Journal of the American Medical Women's Association, Suite 210, 2 Lexington Avenue, New York 10, N. Y. Telephone ALgonquin 4-9745.

JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION

Suite 210, Two Lexington Avenue, New York 10, N. Y.

Editorial Board

JANET K. AITKEN, C.B.E., M.D., F.R.C.P.....*London, England*
INES L. C. DE ALLENDE, M.D.....*Cordoba, Argentina*
LEONA BAUMGARTNER, M.D.....*New York, N. Y.*
NINA FAY CALHOUN, M.D.....*Dallas, Texas*
MARY M. CRAWFORD, M.D.....*New York, N. Y.*
BEULAH CUSHMAN, M.D.....*Chicago, Ill.*
MARIA PAUMGARTTEN DEANE, M.D.....*Belem, Para, Brazil*
GLADYS H. DICK, M.D.....*Chicago, Ill.*
DELLA GAY DRIPS, M.D.....*Rochester, Minn.*
FAITH S. FETTERMAN, M.D.....*Philadelphia, Pa.*
EDNA M. GUEST, O.B.E., M.D.....*Toronto, Canada*
ANNA HUBERT, M.D.....*New York, N. Y.*
HELEN JOHNSTON, M.D.....*Des Moines, Iowa*
ZOE ALLISON JOHNSTON, M.D.....*Pittsburgh, Pa.*
MARGARET H. JONES, M.D.....*Los Angeles, Calif.*
JOSEPHINE H. KENYON, M.D.....*New York, N. Y.*
ELIZABETH KITTREDGE, M.D.....*Washington, D. C.*
IRENE A. KOENEKE, M.D.....*Halstead, Kansas*
ESTHER P. LOVEJOY, M.D.....*New York, N. Y.*
CATHARINE MACFARLANE, M.D.....*Philadelphia, Pa.*
HELEN MACMURCHY, C.B.E., M.D.....*Toronto, Canada*
MINNIE LEE MAFFETT, M.D.....*Dallas, Texas*
DAME A. LOUISE MCILROY, O.B.E., M.D.....*London, England*
HARRIETT C. MCINTOSH, M.D.....*New York, N. Y.*
ANITA M. MUHL, M.D.....*San Diego, Calif.*
DOROTHY KLENKE NASH, M.D.....*Pittsburgh, Pa.*
LOUISE PEARCE, M.D.....*Princeton, N. J.*
GILDA PERAZA, M.D.....*Havana, Cuba*
ELLEN C. POTTER, M.D.....*Trenton, N. J.*
BARBARA B. STIMSON, M.D.....*New York, N.Y.*
MARGARET C. TOD, M.D., F.R.C.S.E., F.F.R...*Manchester, England*
EDNA H. TOMPKINS, M.D.....*Boston, Mass.*
RUTH WELLS, M.D.....*Pasadena, Calif.*
PRISCILLA WHITE, M.D.....*Boston, Mass.*
KATE SAVAGE ZERFOSS, M.D.....*Nashville, Tenn.*

Specialists

Anesthesiology.....VIRGINIA APGAR, M.D., *New York, N. Y.*
Cardiology.....TERESA MCGOVERN, M.D., *New York, N. Y.*
Endocrinology.....RITA FINKLER, M.D., *Newark, N. J.*
Gastroenterology.....MARIE ORTMAYER, M.D., *Chicago, Ill.*
Gynecology.....ELOISE PARSONS, M.D., *Chicago, Ill.*
Neurology.....KATE CONSTABLE, M.D., *New York, N.Y.*
Nutrition.....GRACE GOLDSMITH, M.D., *New Orleans, La.*
Obstetrics.....ANNE S. MASTER, M.D., *Cleveland, Ohio*
Orthopedic Surgery.....RUTH JACKSON, M.D., *Dallas, Texas*
Pathology.....EDITH L. POTTER, M.D., *Chicago, Ill.*
Pediatrics.....MARY B. OLNEY, M.D., *San Francisco, Calif.*
Physical Medicine.....NILA K. COVALT, M.D., *Rocky Hill, Conn.*
Plastic Surgery.....ALMA DEA MORANI, M.D., *Philadelphia, Pa.*
Psychiatry.....ANNA COYNE TODD, M.D., *Washington, D. C.*
Public Health.....HELEN M. WALLACE, M.D., *New York, N. Y.*
Radiology.....ELIZABETH SCHULZE HEALD, M.D., *Berkeley, Calif.*
Surgery.....ANNELLA BROWN, M.D., *Boston, Mass.*
Urology.....OCCO E. GOODWIN, M.D., *San Francisco, Calif.*

EDITOR
ADA CHREE REID, M.D.
New York, N. Y.

EDITORIAL CONSULTANT
ELISE S. L'ESPERANCE, M.D.
New York, N. Y.

ASSISTANT EDITORS
MARCELLE BERNARD, M.D.
M. EUGENIA GEIB, M.D.
MILDRED C. J. PFEIFFER, M.D.

DEPARTMENTAL EDITORS

Recent Advances in Medicine
PATRICIA TUDBURY, M.D.
Visalia, Calif.

Modern Concepts of Physiology
ESTHER M. GREISHEIMER, M.D.
Philadelphia, Pa.

Developments in Diagnosis
CARROLL LAFLEUR BIRCH, M.D.
Chicago, Ill.

Seminars on Therapy
FRIEDA BAUMANN, M.D.
Philadelphia, Pa.

Reports of Proceedings
MARGARET S. TENBRINCK, M.D.
New York, N. Y.

Medical School Student News
EVA F. DODGE, M.D.
Little Rock, Ark.

Chairman of Publication Committee, ELIZABETH WAUGH, M.D., Philadelphia, Pennsylvania

new convenient

ANDROGEN THERAPY

for women

ORETON-M Buccal Tablets containing methyltestosterone dissolved in POLYHYDROL,® a unique solid solvent, provide a more effective and convenient form of male sex hormone. The buccal route permits methyltestosterone to reach the circulation directly. Indicated for definitive relief of menopausal symptoms in special circumstances; for preventing pain of functional dysmenorrhea; and to relieve discomfort of breast engorgement.

Freedom from masculinizing side effects can be expected with recommended dosage of one-half to one and one-half 10 mg. ORETON-M® (Methyltestosterone U.S.P.) Buccal Tablets daily (5-15 mg.).

ORETON-M

buccal tablets

Schering CORPORATION • BLOOMFIELD, NEW JERSEY

ORETON-M Buccal Tablets

AMERICAN MEDICAL WOMEN'S ASSOCIATION

1951-1952

OFFICERS

President: AMEY CHAPPELL, M.D., 795 Peachtree St., N.E., Atlanta, Georgia.
President-Elect: EVANGELINE STENHOUSE, M.D., 55 East Washington St., Chicago 2, Illinois.
Retiring President: ELIZABETH S. WAUGH, M.D., 348 Green Lane, Philadelphia 28, Pennsylvania
First Vice-President: ANTOINETTE LEMARQUIS, M.D., 1207 Medico-Dental Building, San Diego, California
Second Vice-President: CAMILLE MERMOD, M.D., 15 Washington St., Newark 2, New Jersey.
Treasurer: ADELAIDE ROMAINE, M.D., Box 98, Madison Square Station, New York 10, N. Y.
Assistant Treasurer: JUDITH AHLEM, M.D., 954 South L St., Livermore, California.
Recording Secretary: ESTHER C. MARTING, 2314 Auburn Ave., Cincinnati, Ohio.
Corresponding Secretary: LUCILLE MARSH, M.D., 1168 Briarcliff Road, N.E., Atlanta, Georgia.

* * *

National Corresponding Secretary to the Medical Women's International Association:
MARGARET M. WURTS, M.D., 27 East Wellesley Rd., Montclair, N. J.

REGIONAL DIRECTORS

New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut):
Appointment pending.
North Atlantic (New York, Pennsylvania, New Jersey, Delaware):
ADELAIDE ROMAINE, M.D., 35 West 9th Street, New York 11.
Middle Atlantic (Maryland, District of Columbia, Virginia, West Virginia, Foreign):
ELIZABETH KAHLER, M.D., 3828 Fulton Street, N.W., Washington 7, D.C.
South Atlantic (North Carolina, South Carolina, Georgia, Florida, Puerto Rico):
JEAN JONES PERDUE, M.D., 541 Lincoln Road, Miami Beach 41, Florida.
Northeast Central (Ohio, Indiana, Michigan, Illinois, Wisconsin):
KATHERINE W. WRIGHT, M.D., 734 Noyes Street, Evanston, Illinois.
Southeast Central (Kentucky, Tennessee, Alabama, Mississippi, Louisiana):
GEORGIANNA VON LANGERMANN, M.D., 1430 Tulane Avenue, New Orleans 13, Louisiana.
Northwest Central (Minnesota, Iowa, North Dakota, South Dakota, Nebraska):
NELLIE M. BARSNESS, M.D., 540 Lowry Medical Arts Building, St. Paul 2, Minnesota.
Southwest Central (Missouri, Arkansas, Kansas, Oklahoma, Texas):
RUTH ELLIS LESH, M.D., 221 North College Avenue, Fayetteville, Arkansas.
Northwest (Montana, Wyoming, Idaho, Washington, Oregon, Alaska):
MIRIAM LUTEN, M.D., 105 N.E. 61st Street, Portland 16, Oregon.
Southwest (Colorado, New Mexico, Utah, Arizona, California, Nevada, Hawaii, Philippine Islands):
ANTOINETTE LE MARQUIS, M.D., 1207 Medico-Dental Building, San Diego, California.

clinically successful . . .

The pectin suppository
for trichomoniasis
and moniliasis

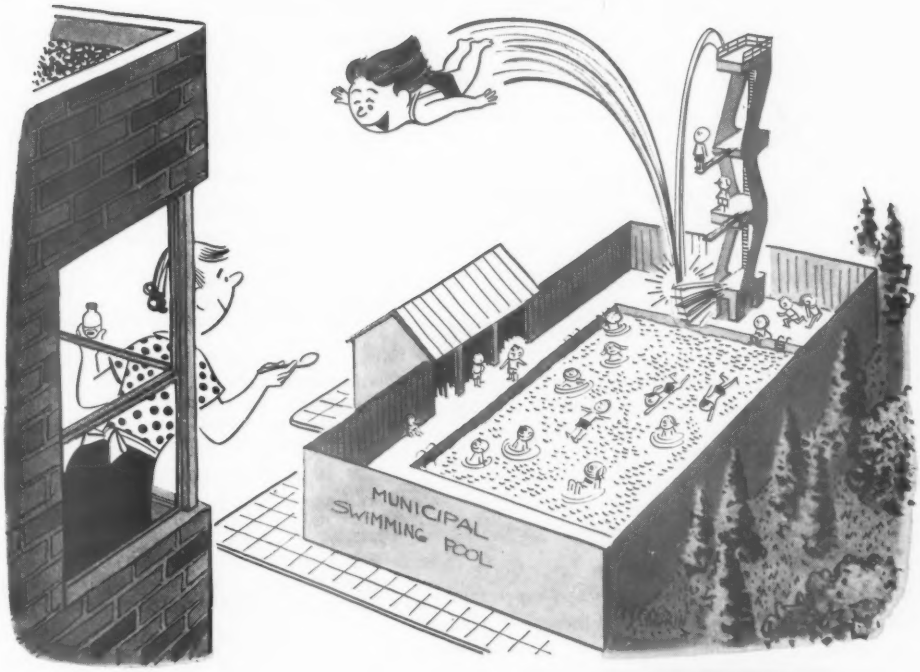
"cagos" vaginal suppositories

A significant advance in the therapy of vaginal infections because their pectin content regulates the speed and intensity of their action to the therapeutic need as represented by the severity of the infection.

formula:
pectin ..... 3 to 5%
boroglycerin 10%
glycerin .....q.s.ad 100%

write for free trial supply and professional information

JOHN PECK LABORATORIES, INC. **60 East 42nd Street, New York 17, N. Y.**



She's heard the call for **Vi-Daylin**

(Homogenized Mixture of Vitamins A, D, B_1, B_2, B_6, C and Nicotinamide. Abbott)

YOUNGSTERS smack their lips at the sight of tempting, yellow-honey VI-DAYLIN, often ask for more when they taste its delicious lemon-candy flavor. Children take it without coaxing, right from the spoon. Here is acceptability—plus.

B_{12} Content Now Tripled . . .

But glance at its potent formula. Each 5-cc. spoonful of VI-DAYLIN now contains 3 mcg. of vitamin B_{12}—three times as much as before—as well as recommended daily allowances of six other essential vitamins. Here, too, is sound vitamin therapy.

No fear of spoilage with VI-DAYLIN—even in thrifty 1-pint sizes—for VI-DAYLIN is stable for as long as two years without refrigeration. Leaves no fishy odor or resistant stains, can be mixed with milk or other foods for infants.

Improved formula

Each 5-cc. teaspoonful of VI-DAYLIN contains:

Vitamin A	3000 U.S.P. units
Vitamin D	800 U.S.P. units
Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12} Activity (by microbiological assay)	3 mcg.
Nicotinamide	10 mg.

In 90-cc., 8-fluidounce and 1-pint bottles at all pharmacies.

Abbott

for simple, effective contraception

requires no diaphragm

Preceptin®

VAGINAL GEL

with measured-dose applicator

A GEL NOT A JELLY

PRECEPTIN vaginal gel is not a jelly. It is a new, scientifically planned contraceptive Gel achieved by blending recently-developed, synthetic, gel-forming agents.

THE BARRIER IS IN THE BASE

PRECEPTIN vaginal gel replaces the mechanical diaphragm with a persistent, adherent physico-chemical barrier built right into the Gel base. This unique Gel base serves also as an excellent vehicle for PRECEPTIN vaginal gel's superior spermicidal system because it mixes rapidly with semen and quickly releases its active spermicides. It spreads rapidly and adheres tenaciously to the moist cervical mucosa to provide lasting protection.

COMPOSITION

PRECEPTIN vaginal gel contains the active spermicidal agents p-Diisobutylphenoxypolyethoxyethanol and ricinoleic acid in a synthetic base buffered at pH 4.5.

PRECEPTIN vaginal gel — a major advance in conception control developed by Ortho Research Laboratories.

Ortho Pharmaceutical Corporation

RARITAN, NEW JERSEY

Manufacturers of Ortho-Gynol® vaginal jelly,
Ortho® Creme, Ortho® Kit,
and Ortho® White Kit.

BRANCH OFFICERS, 1951-1952

ONE, WASHINGTON, D. C.

President: Dorothy B. Holmes, M.D., 1816 R Street, N.W., Washington 9.

Secretary: Dorothy Donley-Dowd, M.D., 2311 Connecticut Ave., N.W., Washington 8.

Meetings held second Tuesday, October to May.

TWO, CHICAGO, ILLINOIS

President: Emelia Giryotas, M.D., 8 So. Michigan Ave., Chicago.

Secretary: Margaret Stanton, M.D., 5625 W. Division St., Chicago.

Meetings held monthly.

THREE, MARYLAND

President: Eleanor Scott, M.D., 1014 St. Paul St., Baltimore.

Secretary: Byruth Lenson-Lambros, M.D., 1224 Bloomingdale Road, Baltimore 16.

Meetings held first Thursday of month.

FOUR, NEW JERSEY

President: M. Eugenia Geib, M.D., 1277 Clinton Place, Elizabeth.

Secretary: Amy S. Barton, M.D., Medford Lakes.

Meetings held twice a year, fall and spring.

FIVE, PORTLAND, OREGON

President: Miriam Luten, M.D., 105 N.E. 61st St., Portland.

Secretary: Laura Ladd, M.D., Medical Arts Bldg., Portland

Dinner Meetings held every two months, with a symposium on scientific topics of general interest.

SIX, OMAHA, NEBRASKA

President: Nancy Catania, M.D., 418 Brandeis Theatre Bldg., Omaha.

Secretary: Muriel Frank, M.D., 4353 Dodge St., Omaha.

EIGHT, NEW ORLEANS, LOUISIANA

President: Georgiana J. von Langermann, M.D., 1430 Tulane Avenue., New Orleans.

TEN, WISCONSIN

President: Edith McCann, M.D., 425 E. Wisconsin Ave., Milwaukee 2.

Secretary: Alice D. Watts, M.D., 324 E. Wisconsin Ave., Milwaukee 2.

ELEVEN, SOUTHWESTERN OHIO

President: Esther C. Marting, M.D., 2314 Auburn Avenue, Cincinnati 9.

Secretary: Rachel Braunstein, M.D., Given Road, Cincinnati.

Meetings held second Tuesday, September, November, January, March, May.

THIRTEEN, SAN DIEGO, CALIFORNIA

President: Anita V. Figueredo, M.D., 7603 Girard Avenue, La Jolla.

Secretary: Bernice B. Ennis, M.D., Rancho Santa Fe.

Meetings held every other month on fourth Thursday.

FOURTEEN, NEW YORK, NEW YORK

President: Leoni N. Claman, M.D., 40 East 88th St., New York 28.

Secretary: Margaret S. Tenbrinck, 235 East 22nd St., New York 10.

BRANCH OFFICERS

FIFTEEN, CLEVELAND, OHIO

President: Jane McCollough, M.D., 2576 Traymore, University Heights.

Secretary: Elizabeth Lash, M.D., 3044 Coleridge Road Cleveland Heights 18.

SIXTEEN, PITTSBURGH, PENNSYLVANIA

President: Theodora Dakin, M.D., Murraysville.

Secretary: Catharine M. Clarke, M.D., 509 Grove St., Sewickley.

NINETEEN, IOWA

President: Maryelda Rockwell, M.D., 220 Tucker Building, Clinton.

Secretary: Mary Louise Lyons, M.D., Iowa Methodist Hospital, Des Moines.

Meetings held each April, in conjunction with state medical meeting.

TWENTY (BLACKWELL), DETROIT, MICHIGAN

President: Martha E. Madsen, M.D., 1821 Woodsboro Dr., Royal Oak.

Secretary: Louise A. Kozlow, M.D., 1050 Fisher Bldg., Detroit 2.

Meetings held five times a year.

TWENTY-THREE, LOS ANGELES, CALIFORNIA

President: Dorothy J. Lyons, M.D., 1233 No. Vermont Ave., Los Angeles.

Secretary: Margaret Ann Storkan, M.D., 3875 Wilshire Blvd., Los Angeles.

TWENTY-FOUR, KANSAS

President: Mary T. Glassen, M.D., Phillipsburg.

Secretary: Ruth P. Spiegel, M.D., Formosa.

Next meeting will be held on call.

TWENTY-FIVE, PHILADELPHIA, PENNSYLVANIA

President: Marion Kolbye, M.D., 618 W. Lehigh Ave., Philadelphia.

Secretary: Naomi Green, M.D., 401 S. 22nd St., Philadelphia.

Meetings held three times a year.

TWENTY-SIX, MINNESOTA

President: Helen Haberer, M.D., 607 Medical Arts Bldg., Minneapolis.

Secretary: Catherine Burns, M.D., 204 Medical Arts Bldg., Albert Lea.

TWENTY-NINE, ATLANTA, GEORGIA

President: Rose A. Lahman, M.D., 795 Peachtree Street, Atlanta.

Secretary: L. Margaret Green, M.D., Crawford Long Memorial Hospital, Atlanta 3.

Meetings held third Saturday, alternate months.

THIRTY, UPPER CALIFORNIA

President: Grace Talbott, M.D., 909 Hyde St., San Francisco.

Secretary: Else Cabos, M.D., 3510 Sacramento St., San Francisco.

THIRTY-ONE, MISSISSIPPI

President: Eva L. McLorn, M.D., 964 N. State St., Jackson.

Secretary: Ruth R. Burroughs, M.D., 2912 N. State St., Jackson.

clinically proved

a new contraceptive gel used without a diaphragm

CLINICAL STUDY • 634 patients • Minnesota

"A study was undertaken of 634 women who used a new type contraceptive gel-alone having improved spermicidal characteristics. Careful follow-up was made of the entire series. In all, 14 failures occurred in 4046 woman-months exposure, giving a pregnancy rate of 4. This figure is substantially less than pregnancy rates reported from other series using jelly-alone, suppositories, and diaphragm-jelly combinations."†

CONCLUSIONS

"There were 5 pregnancies in the series of women using PRECEPTIN [vaginal gel] six months or more, an effectiveness of 97.9 per cent."†

CLINICAL SURVEY • 3270 patients • United States

Analysis of clinical histories of 3270 patients in 51 urban and rural areas who used PRECEPTIN vaginal gel under the direction of their physicians showed only 25 pregnancies — 99.2 per cent received complete protection. Incidence of irritation was only 0.6 per cent.

It is clear that PRECEPTIN vaginal gel's combination of simplicity and dependability makes possible extremely high contraceptive effectiveness.

PRECEPTIN vaginal gel — a major advance in conception control developed by Ortho Research Laboratories.

†Stromme, W. B., and Rothnem, M. S.: Clinical Experience with a New Gel-Alone Method of Contraception. World Population Problems and Birth Control, Annals New York Academy of Sciences, Vol. 54, Art. 5, in press.

Preceptin®
VAGINAL GEL

Ortho Pharmaceutical Corporation
RARITAN, NEW JERSEY

Manufacturers of Ortho-Gynol® vaginal jelly, Ortho® Creme, Ortho® Kit, and Ortho® White Kit.

BRANCH OFFICERS

THIRTY-TWO, WESTERN NORTH CAROLINA
President: Mary Michel, M.D., Waynesville.

THIRTY-THREE, FLORIDA
President: Ruth Rumsey, M.D., 7521 Biscayne Blvd., Miami.
Secretary: Ella Hediger, M.D., 560 N. E. 71st St., Miami.

THIRTY-FOUR, ARKANSAS
President: Martha M. Brown, M.D., State Hospital, Little Rock.
Secretary: Alice Gamble-Beard, M.D., Little Rock.

THIRTY-FIVE, PUERTO RICO
President: Alice Reinhardt, M.D., Sanatorio Insula, Rio Piedros.
Secretary: Maria Amelia Pares, M.D., Professional Building, Santurce.

THIRTY-SIX, ALAMEDA COUNTY, CALIFORNIA
President: Miriam Rutherford, M.D., 2929 Summit St., Oakland.
Secretary: Dorothy McDonald, M.D., 2490 Channing Way, Berkeley.

THIRTY-SEVEN, SEATTLE, WASHINGTON
President: Phyllis Leibly, M.D., 4530-51st St., N.E., Seattle.
Secretary: Lily E. Schoffman, M.D., 828 Fourth and Pike Bldg., Seattle.

THIRTY-EIGHT, LONG BEACH, CALIFORNIA
President: Geneva Beatty, M.D., 901-2 Security Bldg., 110 Pine Street, Long Beach 2.
Secretary: Pearl M. Sampson, M.D., 215 American Avenue, Long Beach.

THIRTY-NINE, BOSTON, MASSACHUSETTS
President: Marion W. Perry, M.D., 88 Scotland Road, Reading.
Secretary: Merry Pitman, M.D., 181 Adams Street, Quincy 69.

Keep this Directory up-to-date by sending the names and addresses of newly-elected officers promptly to Journal of the American Medical Women's Association, Suite 210, Two Lexington Avenue, New York 10, N. Y.

Below is noted a list of the firms who at the present time are advertising in the JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION. We appreciate their interest in our publication and ask our members to favor them whenever possible.

Abbott Laboratories
Ayerst, McKenna & Harrison, Ltd.
Beech-Nut Packing Company
Cambridge Instrument Co., Inc.
S. H. Camp and Company
Ciba Pharmaceutical Products, Inc.
Coca-Cola Company
Desitin Chemical Co.
Eaton Laboratories, Inc.
Florida Citrus Commission
Hoffman-La Roche, Inc.
Holland-Rantos Co., Inc.
John Pack Laboratories, Inc.
Johnson & Johnson
Eli Lilly & Company
Mead Johnson Company
Merck & Company, Inc.
Philip Morris & Co., Ltd., Inc.
Ortho Pharmaceutical Corporation
Parke, Davis & Company
Chas. Pfizer & Co., Inc.
Picker X-Ray Corporation
Schering Corporation
Julius Schmid, Inc.
Smith, Kline & French Laboratories
E. R. Squibb and Sons
Martin H. Smith Company
Tampax, Incorporated
Upjohn Company
Warner-Hudnut, Inc. (Medical Prod. Div.)
Winthrop-Stearns, Inc.

Now...

it's "play refreshed"

with the gay

Tyrolese

Bavarians have fun dancing the "schuh-plattler." And where you find fun, you are likely to find Coca-Cola—for people everywhere like to play refreshed. This is true in the Tyrol as in Texas or Tennessee. Wherever your travels take you, you are sure to meet America's favorite soft drink. You see... folks in far-off countries are making Coke the world's favorite soft drink, too.

DRINK
Coca-Cola
REG. U.S. PAT. OFF.

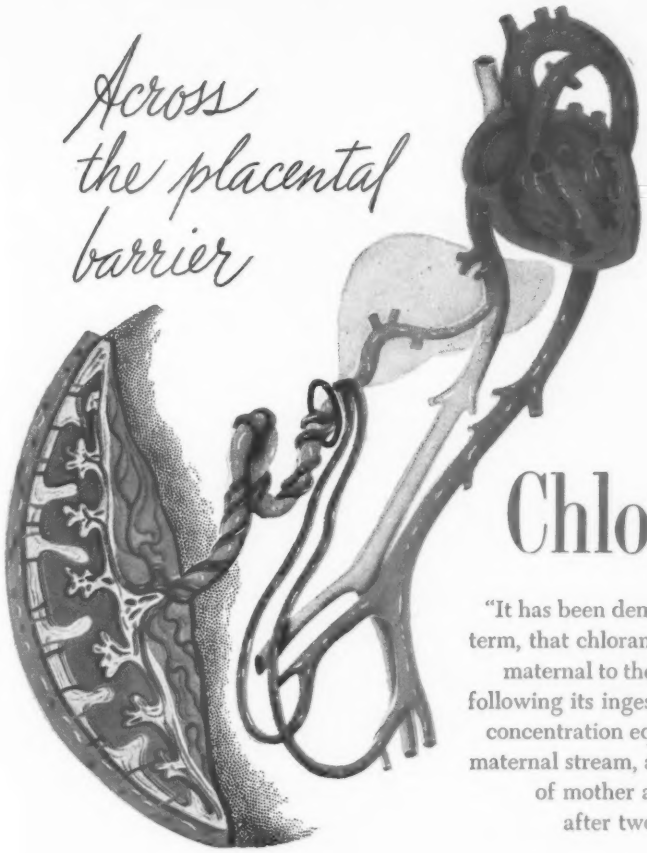
"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS.

COPYRIGHT 1952, THE COCA-COLA COMPANY

International Correspondents

Africa, South	Dr. Marie Van Castricum	*Johannesburg*
Argentina	Dra. Ines L. C. de Allende	*Cordoba*
Australia	Dr. Ida Saunders	*Sydney*
Austria	Dr. Lore Antoine	*Vienna*
Belgium	Dr. Michotte-Ronse	*Bruxelles*
Brazil	Dra. Maria Paumgartten Deane	*Pará*
Burma	Dr. Yin May	*Rangoon*
Canada	Dr. Anna Wilson	*Ottawa*
Chile	Dra. Maria Alvarez Arnold	*Valparaiso*
China, East	Dr. Tsae N. Kwong	*Shanghai*
China, North	Dr. Marion Yang	*Peking*
China, South	Dr. H. H. Huang	*Canton*
Cuba	Dra. Gilda Peraza	*Habana*
Czechoslovakia	Dr. Vlasta Kalalova di Lotti	*Praha*
Denmark	Dr. Agnete Heise	*Copenhagen*
England	Dr. Georgiana Bonser	*Leeds*
England	Dr. Dorothy Anderton-Sharpe	*London*
Finland	Dr. Anni Seppanen	*Helsinki*
France	Dr. Gauthier-Villars	*Paris*
Germany	Dr. Gabriele Strecker	*Frankfurt*
Guatemala	Dra. Maria Isabel Escobar	*Guatemala City*
Haiti	Dr. Yvonne G. Silvain	*Port au Prince*
Holland	Dr. Henrietta A. Lohr	*Amsterdam*
Hungary	Dr. Vilma Sebesta	*Budapest*
India, North	Dr. D. N. Jayakar	*Lucknow*
India, South	Dr. Hilda Lazarus	*South Vellore*
Iran	Dr. Miriam Fahimi	*Teheran*
Israel	Dr. Helen Kagan	*Jerusalem*
Italy	Dr. Mara Selvini	*Milan*
Korea	Dr. Rhoda Kim Pak	*Chunchan*
Mexico	Dra. Alicia Gallaga Romero	*Anahuac*
Mongolia	Mother Mary Franciscus, M.D.	*Ninghia*
Morocco	Dr. Lucia Servadio Bedarida	*Tangier*
New Zealand	Dr. S. Sinclair	*Dunedin*
North Ireland	Dr. F. Mary Erskine	*Belfast*
Norway	Dr. Herdis Gundersen	*Oslo*
Pakistan	Dr. Z. Nasiruddin	*West Punjab*
Panama	Dra. Lidia G. Soganderes	*Santa Tomas*
Peru	Dra. Imelda Lindo de Soriano	*Lima*
Philippines	Dr. Fe del Mundo	*Manila*
Portugal	Dr. Nair de Azevedo	*Lisbon*
Scotland	Dr. Mary Esslemont	*Aberdeen*
Siam	Dr. Pierra Vejjabul	*Bangkok*
Spain	Dr. Alicia Fernandez Calvet	*Galicia*
Sweden	Dr. Andrea Andreen	*Stockholm*
Switzerland	Dr. Ilse Schnabel	*Zurich*
Turkey	Dr. Perihan Cambel	*Ankara*

Across the placental barrier



Chloromycetin®

"It has been demonstrated, in pregnant women at term, that chloramphenicol passes from the maternal to the fetal blood stream in one hour following its ingestion, that it there attains a concentration equal to three-fourths of that in the maternal stream, and that the blood concentrations of mother and fetus are relatively the same after two and one-half hours."[1]

Therapeutic concentrations of well tolerated CHLOROMYCETIN (chloramphenicol, Parke-Davis) in the fetal blood stream are easily obtainable "by the simple oral administration of the drug to the mother."[2] Investigators have suggested, therefore, the empiric use of CHLOROMYCETIN in such virus infections as atypical pneumonia, in an attempt to avoid fetal damage.[3] Results with CHLOROMYCETIN in two patients with typhoid fever during pregnancy were reported recently as "quite satisfactory."[1]

Bibliography: (1) Stevenson, C. S.; Glazko, A. J.; Gillespie, E. C., and Maunder, J. B.: J.A.M.A. *146*:1190 (July 28) 1951. (2) Scott, W. C., and Warner, R. F.: J.A.M.A. *142*:1381 (April 29) 1950. (3) Ross, S., and others: J.A.M.A. *142*:1361 (April 29) 1950.

CHLOROMYCETIN is supplied in the following forms:
CHLOROMYCETIN Kapseals,® 250 mg., bottles of 16 and 100.
CHLOROMYCETIN Capsules, 100 mg., bottles of 25 and 100.
CHLOROMYCETIN Capsules, 50 mg., bottles of 25 and 100.
CHLOROMYCETIN Ophthalmic Ointment, 1%. ⅛-ounce collapsible tubes.
CHLOROMYCETIN Ophthalmic, 25 mg. dry powder for solution, individual vials with droppers.

MEDICAMENTA VERA · P D & CO. ·

Parke, Davis + Company
DETROIT, MICHIGAN

When pregnancy is contraindicated . . .

here is important news about conception control:

When the Contraceptive Clinic of a famous University Medical Center announces that it has discarded the jelly-diaphragm technic in favor of the simple **LOROPHYN® SUPPOSITORY** technic—

that is really important news!

the explanation:

Studies in this clinic proved that the efficacy of **LOROPHYN SUPPOSITORIES** was equal to that of the diaphragm-jelly technic.*

Such efficacy is a result of several factors: spermicidal effectiveness, barrier action, and the ease and simplicity of the **LOROPHYN SUPPOSITORY** technic which favor regular, accurate use.

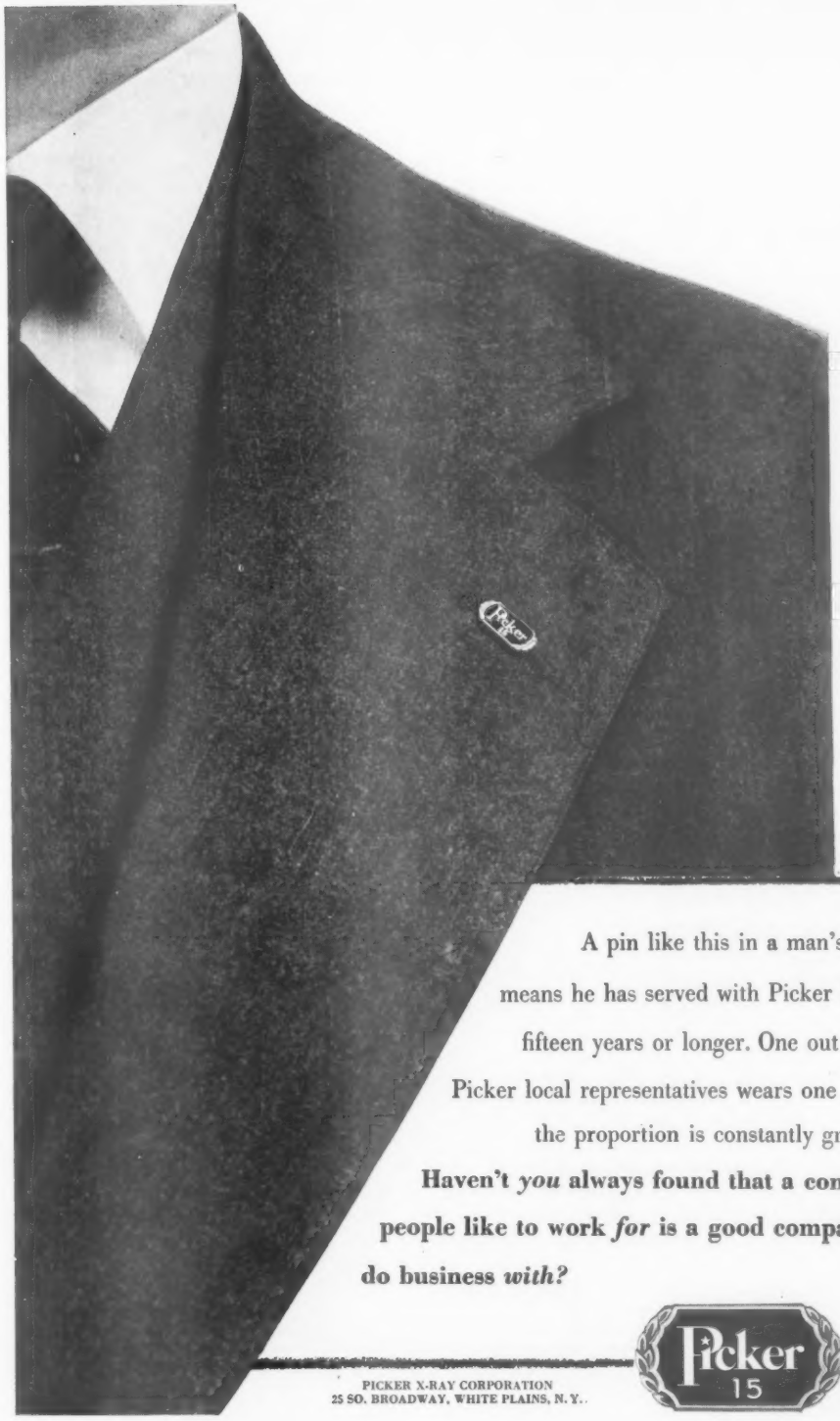
Lorophyn Suppositories N.N.R. contain phenylmercuric acetate 0.05% and glyceryl laurate 10% in a water-dispersible, synthetic wax base. Hermetically sealed in foil to prevent leakage in hot weather.

*Eastman, N. J.: Further Observations on the Suppository as a Contraceptive, South. M. J. 42:346, 1949.

Eastman, N. J. & Seibels, R. E.: Efficacy of the Suppository and of Jelly Alone as Contraceptive Agents, J. A. M. A. 139:16, 1949.

Reprints on request.

EATON LABORATORIES, INC.
NORWICH, NEW YORK



A pin like this in a man's lapel means he has served with Picker X-Ray fifteen years or longer. One out of six Picker local representatives wears one... and the proportion is constantly growing.

Haven't *you* always found that a company people like to work *for* is a good company to do business *with?*

PICKER X-RAY CORPORATION
25 SO. BROADWAY, WHITE PLAINS, N. Y.

Picker 15

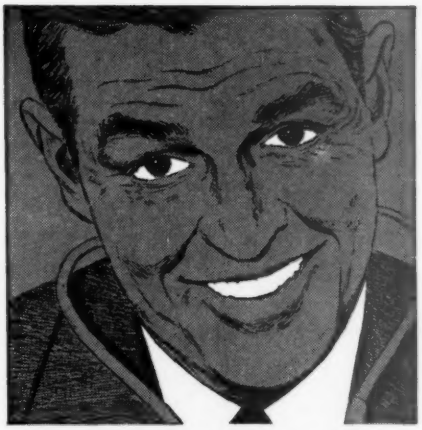
LACTUM

As nutritionally

Sound

as it is

Convenient



Physicians can depend on Lactum's nutritional soundness. Lactum's milk protein (16% of total calories) provides generously for sturdy growth and sound tissue structure. Milk contributes fat of high quality. Dextri-Maltose® is incorporated to "balance" the formula—so that energy needs may be met, fat properly metabolized, and protein "spared" for its essential functions.

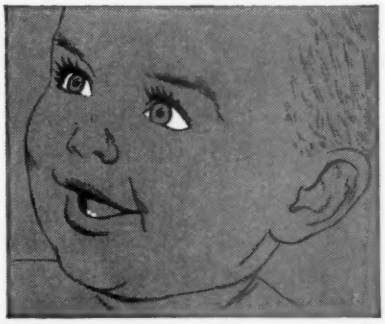
Cow's milk and Dextri-Maltose formulas with Lactum's approximate proportions have been used successfully for forty years.

A 1:1 dilution supplies 20 calories per fluid ounce

Mothers appreciate Lactum's convenience. Feedings are prepared simply by adding water. The 1 to 1 dilution of Lactum and water (volume for volume) eliminates complicated measurements.

Infants thrive on Lactum. Clinical observations* report infants fed Lactum show good tolerance of feedings, low incidence of digestive disturbances and infections, satisfactory growth response, and a generally "excellent" picture of health and development.

*Frost, L. H., and Jackson, R. L.: Growth and Development of Infants Receiving a Proprietary Preparation of Evaporated Milk with Dextri-Maltose and Vitamin D, J. Pediat. 39:585-592 (Nov.) 1951.

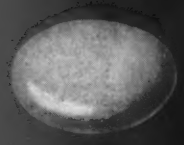


MEAD'S MEAD JOHNSON & CO.
EVANSVILLE 21, IND., U. S. A.

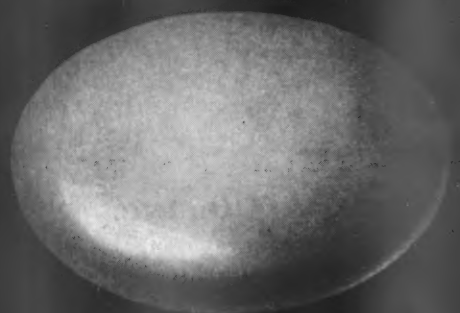
new convenience in broad-spectrum therapy

Easily swallowed, sugar-coated Terramycin Tablets introduce new flexibility in prolonged courses of administration and are particularly suited to effective, well tolerated therapy among patients preferring tablets to other oral forms.

Supplied: 250 mg. tablets, bottles of 16 and 100; 100 mg. and 50 mg. tablets, bottles of 25 and 100.



Terramycin AMPHOTERIC SUGAR-COATED tablets



world's largest producer of antibiotics

ANTIBIOTIC DIVISION, CHAS. PFIZER & CO., INC., BROOKLYN 6, N. Y.

Pfizer

TERRAMYCIN
PENICILLIN
STREPTOMYCIN
DIHYDROSTREPTOMYCIN
COMBIOTIC
POLYMYXIN
BACITRACIN

In a matter of minutes...

GRATIFYING RELIEF

From distressing

Urogenital Symptoms

In a matter of minutes, the local analgesic action of PYRIDIUM safely allays burning, dysuria, urgency, and frequency which often accompany cystitis, prostatitis, urethritis, and pyelonephritis.

PYRIDIUM is compatible with crystalline dihydrostreptomycin sulfate, penicillin, the sulfonamides, or other specific therapy, and is frequently administered together with one of these agents to provide the dual approach of symptomatic relief and corrective action.

PYRIDIUM®

(Brand of Phenylazo-diamino-pyridine HCl)

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc. for its brand of phenylazo-diamino-pyridine HCl. Merck & Co., Inc. sole distributor in the United States.

MERCK & CO., INC.

Manufacturing Chemists

RAHWAY, NEW JERSEY

In Canada: MERCK & CO. Limited—Montreal

Anusol-
Hemorrhoidal
Suppositories
One Dozen
The most widely-used suppository now introduces . . .
. . . this new ointment with the same soothing ingredients

Your patients will be grateful for the itch-relief they get

NEW... Anusol Unguent for external use

Patients with hemorrhoidal and similar conditions invariably have a persistent itch in the anal sector. To relieve this trouble, Anusol Unguent is now available.

Containing the same ingredients as the Suppositories, this new ointment provides prompt, prolonged relief. It is safe, convenient, stable, and not smelly or sticky.

You may prescribe Anusol Unguent with the same confidence you have always had in Anusol Suppositories.

Anusol Unguent is supplied in 1-oz. tubes. Samples and literature on request.

MANY SKIN AILMENTS RESPOND TO ANUSOL

Prompt relief from irritation, burning and itching is afforded by Anusol Unguent. It reduces inflammation, congestion and swelling. Its mild, astringent, antiseptic action hastens healing. General indications:

- Acne vulgaris
- Herpes simplex
- Drug rashes
- Ivy poisoning
- Sunburn
- Burns, abrasions, scalds

Anusol®
SUPPOSITORIES • UNGUENT

WILLIAM R. WARNER
DIVISION OF WARNER-HUDNUT, INC. • NEW YORK 11, N. Y.

Seven-Course "Meal" for Red Blood Cells

EXTRINSIC FACTOR — INTRINSIC FACTOR

LIVER EXTRACT — STOMACH TISSUE

IRON

VITAMIN B_{12} — FOLIC ACID

with ascorbic acid and B complex factors

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

Contains the 7 Known Antianemia Principles

PULVULES

Reticulex

(LIVER, B_{12}, IRON, AND VITAMINS, LILLY)

Journal of the
AMERICAN MEDICAL WOMEN'S ASSOCIATION

VOLUME 7 JUNE 1952 NUMBER 6

Hematologic Therapy

SOME RECENT ADVANCES

Abraham M. Frumin, M.D., Mildred C. J. Pfeiffer, M.D., Mary Helen Cameron, M.D., B. Calesnick, M.D., and Eleanor Smith, M.D.

FOR MANY YEARS the clinician was faced with the apparently hopeless aspect in the treatment of certain hematologic disorders. Blood transfusions, x-irradiation, iron, folic acid, and nitrogen mustard represented the entire therapeutic armamentarium. Splenectomy was the only treatment for acquired hemolytic anemias. The course of acute leukemia could not be modified. Within recent years there has been witnessed the discovery of new drugs having a specific effect in certain blood dyscrasias. A more hopeful outlook has developed because of these findings. — *Dr. Frumin.*

PHARMACOLOGY OF FOLIC ACID ANTAGONISTS

Dr. Calesnick: The pteroylglutamic acids are divided into three therapeutic classes. The first class comprises the agents used in the treatment of megaloblastic anemias. Pteroyl (mono) glutamic acid (PGA, folic acid) and, to a limited degree, pteroyldiglutamic acid (Diopterin®) are used clinically.

The second class has been used experimentally to include a palliative effect in malignant disease, the most familiar member being pteroyltriglutamic acid (Teropterin®). The mode of action is unknown and the clinical results quite disappointing.

The third class of compounds is the result of rational and thorough application of sound pharmacologic principles. There is suggested evidence that folic acid is essential for the biosynthesis of nucleoprotein and therefore important in all cellular proliferation. In addition, it has a general nutritional function apart from its hematopoietic action. By introducing into an organism any agent which blocks both endogenous and exogenous folic acid, signs occur which are not unlike those of folic acid deficiency. Thus PGA antagonists may be used to modify blood dyscrasias which are marked by an erythrocytosis and leukocytosis.

The history of this pharmacologic action is interesting. During the past several years compounds which are structurally similar to, but biologically antagonistic to, metabolically important substances, have been synthesized or found actually to exist. These agents act in competition with the metabolites and exhibit their effects by the production of signs of metabolite deficiency.

Of the various hypotheses proposed to explain this action, the one which best fits the observed facts pictures metabolite and inhibitory analog contending for a specific part of a protein with which the metabolite normally reacts. This is referred to as the "lock and key" theory and really originated with

A symposium by members of the faculty of the Woman's Medical College of Pennsylvania. Dr. Frumin is Instructor in Medicine; Dr. Pfeiffer is Director of the Department of Oncology and Assistant Clinical Professor of Medicine; Dr. Cameron is Instructor in Radiology; Dr. Calesnick is Lecturer in Pharmacology; and Dr. Smith is Resident in Medicine.

Ehrlich. Pharmacologically active drugs can be produced by intentionally modifying a metabolite as follows:

Metabolite	Analog	Structural Alteration
Vitamin K	Dicumarol®	O for C; side chain alterations
Testosterone	Estradiol	Benzene ring for cyclohexane
Thiamine	Oxythiamine	OH for NH_2

In addition to signs of PGA deficiency, antifolic acid metabolites produce extensive necrotic and depleted tissues. This is explained by the absolute deficiency induced by PGA antagonists as well as the inherent cytotoxic poisoning of these compounds. In addition, the marrow therapeutic index seriously limits their clinical use. While these compounds leave much to be desired, they represent a step forward in the search of adequate chemotherapeutic agents for malignant disease.

Folic Acid Antagonists in Acute Leukemia

Dr. Pfeiffer: Chiefly as the result of reports of Farber and his associates in 1948, substances antagonistic to the action of folic acid have been studied and used clinically in the leukemias. These antagonists, first produced by Subbarow and his coworkers at Lederle Laboratories, have not proved to be curative, but they do possess important clinical, hematologic, and pathologic actions.

Partial or complete, single or repetitive, remissions have been reported with these compounds when used continuously or intermittently, with or without, before or after other forms of therapy. The degree of improvement has varied, with best results in acute or subacute lymphocytic leukemia, particularly in children. Reticuloendothelioses and lymphosarcoma may also be temporarily controlled. Outstanding benefit has not been often observed in chronic leukemias.

It is well recognized that remissions occur without the use of folic acid antagonists, and whether or not life is prolonged by them is not fully decided. However, a mean survival time of 16.9 months from onset of symptoms until death in those patients responding to antifolic acid substances compares favorably with that of 4.7 months for those patients with acute leukemia treated before the advent of such antimetabolites. It is unknown why every patient does not respond favorably. Since toxicity and therapeutic benefits are closely linked, and since drug resistance may develop, patients must be carefully supervised, preferably treated in a hospital, and the family informed of the probable limitations of the treatment.

There are several antifolic acid compounds available for clinical use. (Table 1.)

The dose should be modified to suit the patient, and effects observed carefully. Start with a small dose; increase until signs of toxicity or improvement occur; maintain at the same or lower dose every day or every other day if improved; stop for a few days if toxic effects are noted, and start again at a lower dose. Maintain dosage indefinitely, observing the blood count, bone marrow, clinical effects; or defer further treatment until exacerbation recurs.

Toxic effects may be observed any time after the first dose. Improvement may be noted after one or two days to one to eight weeks or longer. The remission may be partial or complete; endure one to two years without further treatment, or last one month, with a second remission following another course of treatment. Patients may die while apparently having hematologic improvement, or may be resistant to

TABLE 1*
ANTIFOLIC ACID COMPOUNDS
Therapeutic Summary

Trade Name	Chemical Name	Dosage, mg. per day		Route of Administration
		Children	Adults	
Aminopterin	4-Amino-PGA#	0.5-1.0	1.0-3.0	Oral or subcutaneous (in similar dosage) dissolved in sterile normal saline
Amethopterin	4-Amino-N^{10}-methyl-PGA	2.5-5.0	5.0-10.0	Oral or subcutaneous (in similar dosage) dissolved in sterile normal saline
Aminopterin	4-Amino-9-methyl-PGA	2.5-5.0	5.0	Subcutaneous, perhaps oral
Adenopterin	4-Amino-9,10-dimethyl-PGA	1.25-2.5	2.5-5.0	Subcutaneous, perhaps oral
Aminoanfol	4-Aminopteroylaspartic acid	20-50	50-75	Subcutaneous, perhaps oral
Aminoteropterin	4-Aminopteroyltriglutamic acid	0.25-0.5	0.5-1.0	Subcutaneous, perhaps oral

*Modified from: Burchenal, J. H., Karnofsky, D. A., Kingsley-Pillers, E. M., Southam, C. M., Myers, W. P. L., Escher, G. C., Craver, L. F., Dargeon, H. W., and Rhoads, C. P., Effects of the folic acid antagonists and 2,6-diaminopurine on neoplastic disease, Cancer 4:549-569, May '51.
PGA refers to pteroylglutamic (folic) acid.

antifolic acid compounds from the beginning, or develop resistance during therapy.

Improvement is accompanied by control of bleeding, increase in weight, loss of weakness, pallor, and fever, and improved appetite; healing of ulcerations, especially stomatitis; loss of bone or abdominal pain; decrease in size of liver and spleen; control of diarrhea; disappearance of skin lesions; return to generally normal well-being. Roentgen ray examination of bones may show healing. Urinary excretion of FSH, estrogen, and 17-ketosteroids may be unchanged, but that of 11-oxysteroids may be reduced.

Toxic effects include increase in frank bleeding tendencies anywhere in the body, or of petechial or ecchymotic areas; ulcerations in the mouth (especially painful if on the lips), or elsewhere along the gastrointestinal tract; burning sensation in the mouth; anorexia, abdominal cramps, and distension; nausea, vomiting, diarrhea, and melena; alopecia; severe infection; bronchopneumonia; fever and weight loss; erythematous skin rash; and death.

No treatment should be undertaken without daily blood counts until stabilization has been obtained. During a remission, if the patient is maintained on an antifolic acid drug, blood counts every other day might suffice. Favorable changes initially include a fall in the total white count and the number of blast forms four to seven days after onset of treatment. Red cells, reticulocytes, and platelets increase, and the relationship of normal types of white cells to each other assume more usual proportions. Unfavorable or toxic manifestations include a progressive leukopenia, anemia, thrombocytopenia, or pancytopenia. AC globulin may be reduced, and may account for increased bleeding. A macrocytosis similar to that of pernicious anemia has been observed. A bone-marrow examination should precede treatment, and be repeated at intervals during treatment, especially if there is a leukopenia of 3000 or less. It is especially essential when treating the "aleukemic" type of leukemia.

Advantageous effects are an initial decrease in abnormal or blast cells, but normal elements will also be depressed at first with intensive treatment. If total cellularity is decreased, the drug should be stopped, at least temporarily, for its effect could continue for the next few days. The most normal-appearing bone marrow has occurred four to six weeks after onset of treatment. It is of interest, however, that clinical, blood, and marrow changes may not always coincide, neither regarding remission nor death. The toxic changes are exaggerations of the above. Megakaryocytes, red cells, and normal white cells may disappear, and blast forms increase even with continued treatment.

There are certain concomitant measures which may be employed. Thus, blood transfusions, nutritious diet, rest, antibiotics, and vitamins are of benefit. A course of cortisone or ACTH may be given, either with, before, or after antifolic acid therapy.

The use of crude liver extract has not been very helpful in reducing the toxic effects of aminopterin and related antifolic acid drugs. The administration of folic acid may nullify antifolic acid effects, but while it may overcome a macrocytosis, it also induces a leukemic relapse. Folinic acid (citrovorum factor) apparently has a selective effect in that it reduces toxicity without interfering with a hematologic or clinical remission. Prevention and reversal of mouth lesions and leukopenia are reported following the early use of 40 million units of citrovorum factor intramuscularly for seven days, given one hour before the administration of an antifolic acid. It would seem that the results obtained are dependent upon the time relationship between the administration of folinic acid and the antifolic acid compound. Whole blood transfusions and antibiotics may be useful in alleviating some of the results of the antimetabolite treatment, but usually their use follows stoppage of antifolic acid therapy.

ACTH and Cortisone in Leukemia, Lymphoma, and Acquired Hemolytic Anemia

Dr. Smith: It has been observed, clinically, for many years that overproduction of the adrenocorticotrophic hormone (ACTH), through its stimulation of the adrenal cortex, causes atrophy of certain tissues, namely, muscle, skin, lymph nodes, and thymus. The mechanism of action is still obscure. With the advent of pure, isolated hormone, experimental studies were done on mouse lymphomas which showed regression of neoplastic tissue and increased incidence of failure of transplants to grow in members of inbred strains.

Attempts have since been made to control the various leukemias, lymphosarcoma, Hodgkin's disease, and multiple myeloma in man with ACTH and cortisone. These drugs were usually administered in dosage of 100 to 200 mg. per day. Results to date are difficult to evaluate because of the varying dosage used, duration of illness, and stage of disease at which therapy with the drug was instituted. A decrease in size of lymph nodes, liver, and spleen was noted in patients with chronic lymphocytic leukemia receiving these drugs. The peripheral blood picture showed an increase in hemoglobin, reticulocytes, and a slight transient increase in platelets. The white

count rose during the first week of treatment and was followed by a decrease below the pre-therapy level. However, the differential white count showed persistance of 98 percent mature lymphocytes, and no improvement was noted in the bone marrow. Although subjective improvement was present, complete remission was not obtained. The longest remission was three months in one course. Some cases responded to two or three courses.

Lymphosarcoma responded to ACTH with a decrease in tumor masses, but remissions, if they occurred, were limited to about three months. Temporary remissions, both hematologic and symptomatic, were achieved in children and adults with acute granulocytic and lymphocytic leukemia. The drug was generally ineffective in acute monocytic leukemia. Although certain cases of Hodgkin's disease and multiple myeloma responded to ACTH and cortisone, prompt exacerbations were experienced as soon as the drug was discontinued.

The beneficial effect of these hormones in acquired hemolytic anemia has been most marked. This disease is due to the development of autoantibodies which cause hemolysis of the patient's own red cells. The site of these antibodies is not well known, but the reticuloendothelial system, lymphoid system, or system of plasma cells are thought responsible. ACTH was used in an attempt to control intravascular hemolysis with the following reasoning. The antigen-antibody effect may be provided by blocking their union or depressing the formation of antibodies. Since there is a marked lymphoid tissue regression and possibly a depletion of these sites, antibody production is further depressed. In the few cases that have been reported, it was noted that the red cell count and hemoglobin value rose. At the same time the reticulocytes, serum bilirubin, antibody titer, and reaction to Coomb's test diminished; associated with these was a diminished need for blood transfusions.

The precautions to be taken when using these hormones are well to review. The physiologic effects which can be controlled without stopping the drug are edema, alkalosis, hypochloremia, and hypopotassemia. Glycosuria, hyperglycemia, and tissue atrophy can usually be controlled as well. The hormones should be stopped with the onset of hypertension, mental disorder, and pyrogenic reactions not responding to antibiotics.

Triethylene Melamine Therapy in Leukemia and Lymphoma

Dr. Cameron: Since the advent of nitrogen mustards into medical practice in 1946, a form suitable for oral administration has been sought. Recently triethylene melamine, known as TEM, has received clinical usage. Its chemical name is 2,4,6-triethylenimino-*s*-triazine. The general range of effectiveness is similar to nitrogen mustard. TEM, like nitrogen mustard, is injurious to normal hemopoietic function; this is a limiting factor in therapy, and careful regulation of the dosage is essential in order to obtain a therapeutic result without producing a fatal or prolonged depression of the bone marrow. TEM, given orally, produces slight nausea, with infrequent episodes of vomiting or no gastrointestinal symptoms. A course of treatment usually consists of 20 to 40 mg. given in a three-to five-week period; however, this schedule varies considerably, and is modified by the diagnosis, general condition, and hematologic status of the patient.

Oral administration of TEM provides a convenient method of treating ambulatory patients, and therapy may be continued by maintenance doses or by repeated courses in patients showing an initial response to the treatment. The indications for the use of the drug are similar to those already well established for nitrogen mustard. The white count and hemoglobin level must be carefully followed as a basis for continuing therapy, since severe bone marrow depression is an inevitable consequence of overdosage. If properly used, TEM given orally appears to be a valuable addition to the small group of chemical agents useful in the palliation of certain types of neoplastic disease.

Vitamin B_{12}

Dr. Frumin: The role of vitamin B_{12} in the treatment of pernicious anemia represents another milestone in the treatment of this disease. With the discovery by Shorb of a microbiologic assay procedure which utilized Lactobacillus lactis Dorner, and by partition chromatography, a crystalline compound was isolated from liver and was given the name vitamin B_{12}. This red substance has a molecular weight of about 1500 and possesses an atom of cobalt as well as the elements C, H, N, and P. This represented the first time cobalt had been found in a pure substance of biologic origin. Vitamin B_{12} is found in a number of natural foods, is synthesized by some intestinal bacteria, and is produced in fermentation processes such as that involved in the manufacture of streptomycin.

Vitamin B_{12} appears to be very closely related to or identical with the so-called "extrinsic factor" and the antipernicious anemia principle found in liver extract. The effects of vitamin B_{12} appear to be

similar in every way to those of liver extract. It has the distinct advantage of being less likely to produce allergic manifestations. It is effective in those macrocytic anemias where liver extract is of value, i.e., tropical sprue, nutritional macrocytic anemia, and in certain megaloblastic anemias of infancy.

The minimal effective dose parenterally is 1 microgram. Good hematopoietic responses may be expected from doses of 10 micrograms daily. Maintenance therapy of 30 to 60 micrograms at monthly intervals are required for the remainder of the patient's life. Larger doses are required in those individuals with combined system disease, i.e., posterolateral sclerosis. Folic acid need not be given as a supplement for vitamin B_{12} in this disease, and recent reports indicate a possible deleterious effect upon the neurologic symptoms.

Summary

Dr. Frumin: The various agents useful in the medical management of certain hematologic disorders have been reviewed. While there is as yet no specific, curative effect, nevertheless, the course of these diseases has been modified. By these means more knowledge and information concerning the physiologic mechanisms present in these disorders have been obtained. By these methods, as well as others, we can hope to develop more satisfactory means to control, and ultimately cure, such diseases.

MODERN CONCEPTS OF PHYSIOLOGY

Effects of Anesthesia

Esther M. Greisheimer, M.D., Ph.D.

Since anesthetics are used to prevent pain and to provide the muscular relaxation required by surgeons, their effects on the nervous system and skeletal muscles will be considered. One of the prime functions of the anesthetist is to see that pulmonary ventilation is so regulated as to prevent hypoxia, hypocapnia, and hypercapnia, with accompanying respiratory alkalosis or acidosis. Premedication agents and general anesthetics depress the respiratory center; a few anesthetic agents stimulate respiration reflexly through chemoreceptors or through receptors in the respiratory passages, and may lead to bouts of hyperventilation. In order to make oxygen available to all tissues, cardiac function and blood pressure must be maintained at nearly normal levels.

Kidney and liver functions are also disturbed by anesthetics and operative procedure. Consequently, the effects of anesthesia on the preceding functions will be considered in this review.

Dr. Greisheimer is Professor of Physiology, Temple University School of Medicine, Philadelphia, Pennsylvania.

Central Nervous System and Skeletal Muscles

Nervous System

The changes in the nervous system which occur in sequence during deepening anesthesia have been described by Etsten and Himwich[1] and by Himwich and associates.[2] A review of the stages which they have described follows. In Stage I the change in cortical functions is most evident. There is clouding of consciousness, loss of judgment, disorientation, inability to fix the attention, and inability to interpret sensory impulses which reach the cortex. There is depression of cerebral functions in general. In Stage II there is loss of consciousness; the incoming impulses stop at the thalamic level, and there is hypersensitivity to stimuli. The thalamus discharges to the basal ganglia and other subcortical nuclei. Since the regulating influence of the cerebral cortex is removed, impulses run riot in the lower portions of the central nervous system. This is the stage of delirium or excitement; responses to stimuli are greatly exaggerated. The jaws are set, the lids are difficult to open, and muscular tonus in general is marked. There may be swallowing, retching, and vomiting, with aspiration of vomitus. The respiratory reflexes are exaggerated. An even rate of administration of an inhalation anesthetic is difficult, since breath-holding may alternate with hyperventilation.

Epinephrine may be discharged. As a result hypertension may follow; if the myocardium is sensitized, cardiac irregularities with eventual ventricular fibrillation can occur. It is feasible to shorten this stage as much as possible.

In Stage III, plane 2, the functions of the thalamus, basal ganglia, hypothalamus, and spinal cord are depressed. The last leads to relaxation of the skeletal muscles. Visceral traction reflexes are still present. Body temperature begins to fall; this is due to three factors. These are: (1) depression of the temperature-regulating center in the hypothalamus, (2) muscular relaxation which decreases heat production, and (3) dilatation of the superficial skin vessels, which facilitates heat loss. The medulla is temporarily spared; this gradient of anesthesic susceptibility is thought to be the basis of safe general anesthesia by some.

In Stage IV the medulla is depressed and respiration and circulation fail. Etsten[2] stated that due to the asymmetric cerebral venous return it was possible to distinguish between the metabolism of the cerebral hemispheres and the remainder of the brain; this formed the basis of his theory of gradient of susceptibility. The metabolic rate was depressed 36 percent during thiopental anesthesia. The rate of cerebral blood flow was slower and the arteriovenous oxygen difference smaller after administration of thiopental. This suggested interference with cerebral oxidative processes. The degree of metabolic depression undoubtedly determines the depth of anesthesia. Administration of anesthetics produces a functional decortication.

Himwich[3] pointed out, as did other workers, that anesthetics produce histotoxic anoxias. In addition, there may be stagnant anoxia due to surgical procedures, anemic anoxia due to undue hemorrhage, and inevitable anoxic anoxia due to depression of the respiratory center. In anoxia, and in hypoglycemia which deprives the nerve cells of their nutritive material, the same gradient of change along the neuraxis has been demonstrated as in anesthesia.

Not all investigators of cerebral metabolism and blood flow agree with the above interpretations. Wechsler and co-workers[4] likewise found a depression of cerebral utilization of oxygen and a decrease in the arteriovenous oxygen difference under thiopental anesthesia. Instead of a decrease in blood flow, they found it higher, and attributed this to a decrease in the cerebrovascular resistance. Since they found no difference between the right and left sides (as found by analyses of right and left internal jugular blood), they assumed that there was no basis for the neuraxis gradient suggested by Etsten and Himwich, and consider that during deepening anesthesia there is an over-all depression of cerebral metabolism. The question of gradient versus over-all depression is still open.

We have all been puzzled by individual differences in rates of induction and recovery. Kety[5,6] has discussed the physiologic and physical factors which govern the uptake of anesthetic gases by the body, which, in turn, determine the rates of induction and recovery. The effect of anesthetic gases depends directly upon the partial pressure of such gases in the tissues of the brain; this, in turn, depends upon the tension of the anesthetic gas in arterial blood and the cerebral blood flow. Numerous factors influence both the tension of the gas in arterial blood and the cerebral blood flow; some of these will be listed. Those which influence the former include the effective respiratory minute volume, tension of the gas in alveolar air, lung volume, thickness of the membrane across which diffusion occurs, solubility of the gas in blood, pulmonary blood flow, blood flow to muscles and fat, mass of muscles and fat, and partial pressure of the gas in the mixed venous blood returning to the lungs.

The cerebral blood flow depends on the mean arterial blood pressure and cerebrovascular resistance. Viscosity of blood, intracranial pressure, and size of cerebral vessels determine the resistance. The size of the vessels is influenced by the tension of carbon dioxide and oxygen and by the pH of the blood. Each factor is amply discussed by Dr. Kety.

Any of us who have administered a general anesthetic have repeatedly desired an objective measure of the depth of anesthesia, instead of depending on our subjective impressions as gained by observing respiration, blood pressure, pulse, and various reflexes. There are times at which these may be unreliable. Gibbs and his associates[7] suggested in 1937 that electro-encephalography might be of value in controlling the depth of anesthesia. Little attention was paid to this suggestion, so far as man was concerned, until 1949. During this interval, Swank and his co-workers,[8-10] reported the electro-encephalographic changes observed in dogs during progressive barbiturate and ether narcosis. They found, among other changes, that, in deep narcosis, brain potentials showed periodic complete suppression; these periods were separated by the appearance of slow waves. They called the periods of suppression "blackouts."

Since 1949, reports of electro-encephalograms in man under anesthesia have appeared.[11-14] The changes in the EEG pattern are sufficiently clear and consistent to permit relating them to various depths of anesthesia progressing from loss of consciousness to complete respiratory paralysis.

The changes observed during deepening anesthesia produced by nitrous oxide-ether anesthesia fall naturally into the following seven levels. The first level is described as flat; the EEG record is almost flat as the alpha frequency disappears. It lasts about seven minutes with induction of normal duration and accompanies loss of consciousness.

The second level is characterized by high amplitude, and rhythmical discharges which appear suddenly. The amplitude is maximal over the precentral area, where it may reach 200 to 300 microvolts. The average frequency is 2.8 cycles per second and the duration of this level about one minute. If excitement and restlessness appear at all, they do so during the latter part of the first level and continue into the second. At this time skin clips cannot be inserted nor skin incisions made.

The EEG during the third level is complex. There is little rhythmicity or tendency to repetition of wave forms. Waves of slower frequency than before predominate, but some faster components also appear. This is light surgical anesthesia.

Slight suppression is evident at the fourth level. There are short periods (up to three seconds) of relative cortical inactivity, separating single or small groups of high-voltage waves. The amplitude of the waves is 150 microvolts, and the rate is 2 to 4 cycles per second. Abdominal operations which require muscular relaxation can be done at this level, and intratracheal tubes can be inserted.

Moderate suppression characterizes the fifth level. Periods of inactivity last from three to 10 seconds. Single waves appear; the amplitude is less than 150 microvolts. The same procedures can be carried out by surgeons as at the fourth level.

The EEG at the sixth level shows severe suppression; there is no tendency to regular discharge. This is deeper anesthesia than is advisable.

At the seventh level there is complete suppression of activity. Respiratory failure ensues if anesthesia is brought to this depth.

It is thought that the EEG patterns are the result of increasing concentrations of anesthetics in the brain, and thus a direct measure of the depth of anesthesia.

It has been found possible to utilize the brain potentials to regulate automatically the administration of certain anesthetic agents. When the electrical output reaches a certain level, it sets off a mechanism which introduces a given amount of thiopental into a vein or of ether into the inhalation apparatus. This does not mean that the presence of the anesthesiologist can be dispensed with, but it does have certain applications which will be listed later.

Frontal to occipital bipolar derivations on one side are used. Filters are used to remove fast frequency output. Anesthetic agents cause individual differences in EEG pattern to disappear, and produce a standard pattern.

This constancy of relationship between the electrical energy output of the cortex and the depth of anesthesia makes possible the following: (1) the maintenance of automatic anesthesia in human beings, (2) the maintenance of standard conditions of anesthesia in the pharmacologic investigation of various anesthetic agents, (3) the regulation of intravenous anticonvulsant medication in epileptic patients, and (4) the provision of a simple method for translating complex EEG rhythms into quantitative terms.

Skeletal Muscles

The basis of muscular relaxation is the loss of the stretch reflex. Normally, a slight pull on a muscle sends in afferent impulses which set up a reflex contraction in the muscle stretched. This is a local reflex and depends on an intact reflex arc. When a certain depth of anesthesia is reached, the reflex arc is interrupted by depression of the central nervous system (spinal cord).

It is possible to prevent the stretch reflex without such depression in the central nervous system, by giving curare or similar drugs. These drugs act at the neuromyal junction; they decrease the end-plate potential to such an extent that the impulse cannot reach the muscle.[15,16] The conducting mechanism of the muscle is not depolarized, and, as a result, no contraction ensues. There is a gradient of susceptibility to curare in different striated muscles; the muscles of the abdominal wall are affected by lower concentrations of curare than are the muscles of respiration. This means that abdominal relaxation can be attained without stopping respiration. However, curare should never be used without having the facilities at hand for administering artificial respiration, as it is difficult to judge the dosage which will just relax abdominal muscles and not affect respiratory muscles; the margin is narrow.

If curare is used in higher doses than required to relax striated muscles, it apparently blocks synapses in autonomic ganglia and central nervous system.[17–19] Foregger[20] reported eight fatalities following the use of curare, in which it was thought to produce a histamine-like action leading to bronchoconstriction, with massive pulmonary collapse. It affects smooth muscle of the blood vessels which leads to a fall in blood pressure after rapid injection. Flaxedil does not have this property.

Respiration

The respiratory center in the medulla is under nervous and chemical control. The former includes impulses from higher centers (voluntary control), pons (pneumotaxic center), lungs (Hering-Breuer reflexes), chemoreceptors of carotid and aortic bodies (combination of reflex and chemical control), respiratory passages (protective reflexes), and any type of receptor over any afferent nerve (incidental reflexes). The efferent pathway in eupnea (normal breathing) includes the phrenic and intercostal nerves; in deeper respiration, the nerves to the accessory muscles of inspiration and expiration are included.

The chemical control of respiration is due to the tension of carbon dioxide in the arterial blood. A normal center responds promptly to a slight increase in carbon dioxide tension. Cushny and Lieb[21] found that morphine slowed the rate of respiration enough to permit hypercapnia, and the respiratory center after morphine administration was much less responsive than the normal to inhalation of carbon dioxide. Anesthesiologists should ever be aware of the fact that the depressed center differs in its responses from the normal center.

A change in respiration has been noted by many anesthesiologists when the administration of ether is begun during the course of anesthesia, and this was accounted for by Schmidt and Harer.[22] When ether is inspired, expiration becomes an active process, and remains so until narcosis is deepened to the point of respiratory failure. This is due to the fact that ether exerts an irritant effect on the mucosa of the respiratory passages and reflexly produces an active expiration which would be a cough, under normal circumstances. In spite of this, ether exerts a depressing effect on the respiratory center. This is an example of a reflex drive of respiration.

There is also a reflex drive of respiration under barbiturate anesthesia, but the mechanism differs from that under ether. Moyer and Beecher[23] found that the barbiturates depress the respiratory center sufficiently to produce hypoxia of such a degree that the chemoreceptors are stimulated. Under deep anesthesia the respiration is regulated solely by this oxygen lack acting on the chemoreceptors. At this stage, carbon dioxide can no longer stimulate the respiratory center; in fact, the increasing tension of carbon dioxide has a depressing or narcotic effect on the center. As carbon dioxide accumulates it may depress cellular oxidations, and cause further damage. Moreover, the respiratory regulation of acid-base equilibrium has lost its sensitivity.

Schmidt[24] reviewed the evidence that the normal respiratory center is exquisitely sensitive to changes in carbon dioxide tension, and responds, also, to changes in pH, but is depressed by lack of oxygen while the chemoreceptors are extremely sensitive to oxygen lack, but require marked changes in carbon dioxide tension and pH for stimulation. The chemoreceptors are the only structures which are stimulated by oxygen lack, no matter how it is produced. This is probably due to the fact that they lack specialized differentiation. If a patient's respiratory center is being reflexly driven by oxygen lack in the chemoreceptors, he will stop breathing when higher concentrations of oxygen are administered. This does not mean that oxygen should not be supplied to such a patient, but his respiration will have to be controlled by the anesthesiologist while oxygen is being supplied to improve the condition of the respiratory center so that it may recover excitability and respond to other stimuli. Dripps and Dumke[25] expressed the opinion that drugs which increase the sensitivity of the chemoreceptors do so only because of hypoxia which is secondary to their depressant effects on the respiratory center, which leads to a decrease in the minute volume of respiration.

Bennett and his associates[26] recorded respiratory activity by means of a spirometer on 30 patients the day before operation, after premedication, and after the first plane of the third stage of anesthesia had been reached under nitrous oxide-oxygen or ethylene-oxygen anesthesia. They found that premedication agents commonly used reduced the mean tidal volume to 67.9 percent and the minute volume of respiration to 75 percent of the control values. During anesthesia, the tidal volume averaged 60.1 percent, and the minute volume of respiration 76.3 percent of the control values. Their results drive home to us the fact that the respiration of patients is likely to be depressed due to premedication agents, when they enter the operating room; this should be kept in mind during the course of anesthesia, as hypoxia and hypercapnia may already be present.

Morton[27] also recorded respiratory activity during surgical anesthesia and found that even under anesthesia, the cutting of superficial structures, anal dilatation, opening the peritoneum, and traction on the abdominal viscera produced changes in the respiratory pattern. This represents the influence of incidental reflexes.

In addition to the depressant effect of premedication and anesthetic agents, hypoxia, and hypercapnia, the anesthesiologist may have to contend with reduced respiratory movements due to the position of the patient during the operation. The steep Trendelenburg, gallbladder, lateral, and kidney positions interfere with respiratory movements.

High spinals and curare present additional hazards. If intratracheal tubes are not used, the danger of the tongue falling back and of aspiration of vomitus during lighter stages of anesthesia can cause difficulty. The accumulation of bronchial secretions or the formation of a plug of mucus may act as an obstruction.

The respiratory movements aid venous return; this is especially important when the muscular pump mechanism is not active. When the respiratory movements are limited, the venous return is decreased and this, in turn, leads to a decrease in cardiac output. If the cardiac output is decreased the arterial blood pressure will fall. Decreased respiratory movements are not sufficient for gaseous exchanges and in addition to hypoxia, hypercapnia supervenes and leads to respiratory acidosis. On the other hand, if the anesthesia is not deep enough, stimuli which would produce pain in a conscious person will lead to hyperventilation in the anesthetized patient, with respiratory alkalosis and the danger of convulsions.

The anesthesiologist literally must watch every breath the patient takes, whether spontaneous, complemented, supplemented, or even artificially administered. Even with extreme care, one cannot tell by observation if the pulmonary ventilation is sufficient to prevent hypoxia and accumulation of carbon dioxide. The effects of both will be considered.

Hypoxia

Hypoxia affects many functions of the body. The cells of the cerebral cortex may suffer irreparable damage within a few minutes if oxygen is lacking. It has already been stated that lack of oxygen depresses the respiratory center. In addition, there is damage to the heart muscle and to the liver. The permeability of the capillaries is increased if oxygen lack persists for any length of time. The physiologic effects of anoxia are reviewed in detail by Fulton,[28] and will not be stated here. Instead, a summary of the reports published in the literature dealing with anesthesia will be given. Postanesthetic encephalopathy following cyclopropane-oxygen anesthesia was reported in 1938,[29] and after nitrous oxide-oxygen, Avertin®, as well as cyclopropane-oxygen anesthesia in 1939.[30] Six types of disturbances were noted after anoxic episodes in the above types of anesthesia: (1) disturbances in consciousness, manifested by stupor, interrupted by periods of screaming, manic or apparently hysterical behavior; (2) motor signs, restlessness, myoclonic muscular twitching, and generalized convulsions; (3) decerebrate phenomena, rigidity, posturing, purposeless thrashing about of extremities, chewing, grinding teeth, facial grimacing; (4) visual disturbances, hallucinations, and blindness; (5) autonomic signs, variations in pulse rate, blood pressure, sweating, cyanosis, or flushing; (6) hyperthermia.

As stated earlier, all types of anoxia may enter into the picture during the course of an operation; this has been emphasized by Schnedorf and co-workers.[31] Burdick and his associates[32] reported a case with a fatal outcome; they point out that the results of an anoxic episode vary greatly with the rapidity of onset, type of anoxia, duration, amount of available oxygen, age, and physical status of the patient.

Hoff and his co-workers,[33] in a review of the histopathology of the central nervous system after death from exposure to high altitude, call attention to the fact that the brain changes produced by anoxia, hypoglycemia, carbon monoxide poisoning, and overdose of anesthetic agents are quite similar, and probably have much in common. Lewis and Haymaker[34] reported the findings in 75 autopsy subjects in whom death had been due to acute anoxia in aviators. The principal findings in the cells of the nervous system were shrinkage and chromatolysis.

Lucas[35] stated that anesthetic agents may exert their inhibitory effects on cells of the brain in one of two stages: (1) by interfering with the transfer of hydrogen from reduced cozymase to flavoprotein, or (2) by preventing oxidation of flavoprotein by the cytochrome system. Three minutes of cerebral anemia is all an anesthetized man can endure without irreversible damage in the cells of the cerebral cortex.

Seldon and his associates[36] considered that a period of cerebral edema followed anoxic episodes, and that the damage to the brain was determined in part by the duration and severity of this postanoxic cerebral edema. They felt that treatment should be directed toward the alleviation of cerebral edema which was secondary to acute anoxic episodes. They found that serum albumin led to marked improvement in two cases.

Since hypoglycemia and anoxia produce similar results, Bollman and his co-workers[37] tried to determine if anoxic sequelae are less drastic in the presence of hyperglycemia. They used rats; they found that hyperglycemia had no effect on the course of events but insulin, thyroxin, and hemorrhagic anemia lowered the resistance of the animals to anoxia. The animals treated with thiouracil were more resistant than untreated animals. Newborn rats were found to be more resistant than adults. However, in spite of an increased resistance to anoxia in the newborn infant, anoxia at this age is not without danger, as shown by Grunwald,[38] Preston,[39] and Darke[40] who found mental deficiency as a result of severe anoxia during or immediately following birth.

Since it is so important to keep patients well oxygenated during the administration of anesthesia, the advantage of continuous observation of oxygen saturation of arterial blood is obvious. Stephen and his associates[41] stated that the use of the oximeter eliminated the guesswork about oxygen saturation. By use of this instrument, one can detect hypoxia when observations of pulse, blood pressure, skin color, and peripheral vascular tone have shown no abnormalities. Latterall and Lundy[42] found that the oxygen saturation of the arterial blood during spinal anesthesia remained at the same level as after premedication; this holds, if marked falls in blood pressure are prevented. Penneys and Thomas[43] found that even when individuals were breathing a given percentage of oxygen, the oxygen saturation of arterial blood varied widely. There are other factors than the percentage of oxygen in the inspired air which affect saturation of the blood with oxygen. The change in the minute volume of respiration is one of these factors; the above authors found that in one individual breathing 10 percent oxygen, his saturation decreased from 91 to 59 percent when his minute volume decreased from 18 to 8.5 liters per minute. It has already been stated that the minute volume of anesthetized patients is far below that of their control values, and the administration of a high percentage of oxygen does not necessarily insure a high arterial oxygen saturation.

The danger of hypoxia does not cease when the administration of anesthesia stops; the failure to maintain a patent airway after removal of the mask allows the arterial oxygen saturation to fall markedly within a few seconds, as shown by the oximeter.[44] Since rapid and wide fluctuations of arterial oxygen saturation occur so commonly, intermittent blood gas analyses during and after anesthesia are quite inadequate.[45]

Waters[46] stated that hypoxia in most cases is subject to the anesthetist's control and that no drug will relieve pain without adding the hazard of hypoxia, either by its primary or its secondary effects. It is well known that cyanosis is not a reliable sign of hypoxia. The state of anesthesia, no matter how produced, predisposes the patient to a reduced tension of oxygen. Barach and Rovenstine[47] clearly pointed out the hazards of anoxia during nitrous oxide-oxygen anesthesia, in which the dangers of anoxia are greater than in other types of anesthesia.

Hypercapnia.

Accumulation of carbon dioxide may occur by carbon dioxide absorption technique. Seevers[48] stated that in cyclopropane-oxygen anesthesia by this technique it was possible to find a carbon dioxide tension of 75 to 80 mm. Hg (normal 40) and pH of 7.15 to 7.20 (normal 7.40) in arterial plasma. This means that the arterial blood is equilibrated with 10 to 11 percent of carbon dioxide in alveolar air. Under these conditions, a normal individual would lose consciousness within 10 minutes, as this concentration of carbon dioxide acts as a narcotic. The normal respiratory center is depressed by such levels of carbon dioxide, and the center which has already been depressed by premedication and anesthetic agents is greatly depressed by much lower levels of carbon dioxide. Such tensions of carbon dioxide do not occur if pulmonary ventilation is controlled properly by anesthesiologists, and support given respiration when needed. There is no workable method at present available for continuous estimations of carbon dioxide tension in arterial blood.

Heart and Circulation

Heart

The rate and force of the heart beat are influenced by impulses from the cardio-inhibitory center by way of the vagus nerves and from the cardio-augmentor center by way of the thoracic nerves. The cardiac centers, in turn, are influenced by impulses from various other levels of the central nervous system, and by afferent impulses from many receptors. The afferent impulses which are most important in the regulation of the activity of the heart are those from the pressoreceptors in the carotid and aortic sinuses. An increase in arterial blood pressure in these areas sets up impulses which reflexly slow the heart by stimulating the cardio-inhibitory center and vagus nerves, and reciprocally inhibiting the cardio-augmentor center. When there is a fall of pressure in the carotid and aortic sinuses the discharge of impulses from their receptors decreases; the end result is a stimulation of the cardio-augmentor center and an inhibition of the cardio-inhibitory center.

The activity of the heart is influenced by the composition and amount of blood which enters it. So far as the latter is concerned, a better filling of the ventricle brings about a more forceful contraction, as shown by Starling. The former will be dealt with later.

Various premedication and anesthetic agents influence the activity of the heart. Pettus and his coworkers[49] found no striking bradycardia in man after the administration of morphine, contrary to the experiences of others with animals. No consistent effects were noted in electrocardiograms after

morphine injection. Other investigators[50,51] have verified the findings of Pettus.

Johnstone[52] stated that ventricular ectopic beats arise during the course of thiopental anesthesia in the presence of hypercapnia; these disappear as soon as the carbon dioxide tension is restored to normal.

Meek reviewed the effects of various inhalation anesthetics on the heart.[53] Cyclopropane, as well as chloroform, sensitizes the myocardium and irregularities are prone to occur under its administration. The irregularities include ventricular premature contractions, multifocal ventricular tachycardias, and occasionally ventricular fibrillation. It has been known for many years that these irregularities disappear when the concentration of cyclopropane is decreased and ether is added to the inspiratory mixture.[54,55] Irregularities during the administration of cyclopropane-oxygen anesthesia may be easily demonstrated in experimental animals, by the injection of a small amount of epinephrine. Nickerson and Brown[56] have shown that Dibenamine® prevents the appearance of cardiac irregularities during cyclopropane-oxygen anesthesia. They found that all concentrations of cyclopropane sensitize the myocardium to circulating epinephrine, and that if Dibenamine® was withheld, the severity of the cardiac arrhythmias increased exponentially with the depth of anesthesia. The arrhythmias are more severe if hypoxia is present.

Moe and his associates[57] suggested that the arrhythmias precipitated by epinephrine, under cyclopropane anesthesia, were not due to an increased sensitivity of the myocardium, but that the sudden increase in blood pressure exerted its effect directly on the myocardium, by preventing complete emptying and in this manner stretching it. If the pressor response was prevented, epinephrine did not induce arrhythmias. They believe that Dibenamine® protects against arrhythmias because it prevents the pressor response of epinephrine. Lenal and his coworkers[58] have expressed the same opinion of the importance of hypertension following epinephrine in precipitating arrhythmias.

It has been noted that certain surgical procedures are more prone to lead to cardiac irregularities than others[59] especially in the presence of light anesthesia; the ones which favor the appearance of arrhythmias are the opening and closing of the peritoneum, traction on the gallbladder or uterus, exploration of the abdominal cavity by palpation, removal of the appendix, and excision of the thyroid gland.

It was stated earlier that the activity of the heart is influenced by the composition of the blood. The cation which frequently causes difficulty is potassium, especially in emergency operations on patients who enter the hospital after several days of vomiting. Such patients are prone to be suffering from hypopotassemia. This condition is accompanied by systolic murmurs, gallop rhythms, cardiac dilatation, and hypotension. The electrocardiogram shows prolongation of the Q-T interval, depression of the S-T segment, decrease in amplitude, and change in contour of the T waves. The importance of potassium in cardiac activity, as well as in other physiologic functions, has been called to the attention by many investigators.[60–62]

The anesthesiologist should be certain at all times that hypoxia and hypercapnia are not present to contribute their influence to the onset of cardiac irregularities, and that neither hypopotassemia nor hyperpotassemia are present to complicate the cardiac picture still further.

Blood Pressure

The vasomotor center is located in the medulla. Like the other vital centers it may be affected by impulses from higher centers and by afferent impulses from a wide variety of receptors. The most important afferent impulses in the regulation of the activity of this center are those from the pressoreceptors in the carotid and aortic sinuses. The center is affected, also, by the chemical composition of the blood flowing through it, and by intracranial pressure. The level of the systolic blood pressure is determined by two factors; these are the cardiac output and the peripheral resistance. Consequently, all the factors which exert an effect on the activity of the myocardium, as well as those which affect the size of the arterioles, affect blood pressure.

A rise in arterial blood pressure under anesthesia may be due to an increase in carbon dioxide tension in arterial blood flowing through the medulla. Any condition which leads to hypercapnia can bring about such an increase in blood pressure; this occurs when the respiratory center is depressed, with consequent decrease in pulmonary ventilation, and when the soda lime is exhausted. An increase in intracranial pressure may bring about a dangerous rise in arterial blood pressure. A release of epinephrine from the patient's adrenal medullae leads to a bout of hypertension.

A fall in arterial blood pressure occurs more commonly than a rise, during the course of anesthesia. This may be due to the position of the patient on the table; this often is such that it interferes with venous return. There may be hemorrhage, with reduction in blood volume. Under spinal anesthesia there is pooling of blood in the relaxed striated muscles and splanchnic bed; this leads to

a poor venous return to the heart. The vasomotor center may fail under prolonged hypoxia or excessively deep anesthesia. There may be a decrease in plasma volume due to increased permeability of capillaries if hypoxia persists. Any fall in blood pressure may lead to damage of the myocardium, since the coronary flow declines as arterial pressure falls. Ischemia of brain, with consequent anoxia, may lead to irreversible damage. The liver cells suffer damage due to hypoxia if hypotension is prolonged.

Premedication agents may affect blood pressure. The circulatory changes induced by injection of morphine may be revealed only when a strain is placed upon the cardiovascular system. Drew and his associates[61] state that the movement of a morphinized patient from the supine to the sitting position may be followed by vascular collapse, due to cerebral anemia.

Peripheral Circulatory Reactions

There are changes of importance in the peripheral vessels in response to anesthetic agents. These changes were studied by continuous observation of the blood vessels of the omentum of dogs, using graded hemorrhage as a stress factor. The reactions noted were described by Hershey and Zweifach,[62] and apply to the vessels beyond the arterioles, where vasomotor nerves are absent and the vessels are regulated by blood-borne substances and metabolites of local origin. The characteristic activity noted in these peripheral vessels is termed vasomotion. During the stress of hemorrhage, the kidney elaborates a substance which increases vasomotion in these vessels; since it is vaso-excitatory, it is called VEM. As stress increases, or the hemorrhage lowers blood pressure to the irreversible stage, VEM is no longer elaborated; the liver suffers from ischemia and anoxia, and in its disorganized state elaborates a substance which depresses vasomotion, called VDM; this is probably ferritin. Under cyclopropane-oxygen anesthesia, there is no interference with vasomotion; it increases beyond the control activity; only VEM is thought to be present. Under ether, vasomotion ceases; large amounts of VDM are thought to be present. Under thiopental anesthesia, vasomotion is subnormal; in the early stages VEM may be produced, but later, VDM appears. If one can draw any conclusions from these observations, it seems that cyclopropane-oxygen anesthesia interferes least with the normal activity of the peripheral vessels. How these results apply to man is still a matter of speculation.

Changes in the Blood

The following changes have been reported to occur in the blood during ether anesthesia: (1) an increase in the number of circulating erythrocytes, platelets, hemoglobin,[64-66] (2) rise in blood viscosity. There is a slowing of the circulation time and a shortening of the coagulation time. All of these factors are of importance in the etiology of thrombosis, which, in turn, is an essential factor in postoperative embolism.[64] Not all investigators agree with the above; some report no change in hemoglobin, total protein, albumin-globulin ratio, nonprotein nitrogen, chloride, or cholesterol.[67] The differences reported may be due to differences in the animals used, and in depth of anesthesia, hypoxia, or hypercapnia.

Inorganic phosphorous increases under ether,[68] and under cyclopropane-oxygen anesthesia.

Under thiopental anesthesia, the following changes in blood have been reported: decrease in hemoglobin;[66] no change in inorganic phosphorus.[68] Under Nembutal®, the hematocrit, white count, and plasma protein fall; also present is hemodilution.[68]

Under spinal anesthesia there is a decrease in the inorganic phosphorus.[68] The possibility of postoperative hemorrhage is greater after spinal anesthesia[64] than after ether, since the changes which favor coagulation do not occur in the former. The changes in pH are listed in the section on acid-base equilibrium.

Kidney, Water, and Salt Metabolism, and Acid-Base Equilibrium

Kidney Function

There is a decrease in the output of urine under morphine; this is due to an increased secretion or liberation of the antidiuretic hormone by the posterior lobe of the pituitary gland.[69]

Under ether anesthesia, Burnett and his coworkers[70] showed by mannitol clearance that the glomerular filtration rate fell 21 percent, the effective renal plasma flow fell 39 percent (PAH), and the filtration fraction increased 25 percent. The urine flow decreased 51 percent. This decrease in urine flow was the result of an increase in the tubular reabsorption of water, as well as the decrease in glomerular filtration and renal plasma flow. Under cyclopropane-oxygen anesthesia the decrease in glomerular filtration rate was 31 percent, decrease in renal plasma flow 52 percent, and increase in filtration fraction 35 percent.

Selkurt and his associates[71] found that a decrease in filtration resulted in a relative increase in tubular reabsorption of electrolytes and water. At about 50 percent of the control filtration rate,

the excretion of sodium practically ceased. Pitts and Duggan[73] demonstrated that the proportion of sodium absorbed in the proximal segment varies as an inverse function of glomerular filtration rate and the prolonged contact of the filtrate with the tubular epithelium.

Habif and his co-workers[73] reported a comprehensive study of various kidney functions in relation to anesthesia and surgery, on 34 patients. Meperidine decreased the glomerular filtration rate (by inulin clearance) 21 to 45 percent below control values. The effective renal plasma flow (by PAH) decreased 24 to 50 percent. There was a slight rise in the filtration fraction. These changes were interpreted as evidence of intrarenal vasoconstriction. The decrease in water output was marked, and associated with an increased urinary concentration of sodium, potassium, and chloride.

With cyclopropane-oxygen anesthesia the same authors found that the glomerular filtration rate, effective renal plasma flow, and output of water and electrolytes invariably decreased markedly after induction. The filtration fraction rose. The changes with ether and thiopental anesthesias were similar, but less pronounced. In all cases, after the administration of the anesthetic stopped, all the values returned quickly to normal.

The authors concluded that general anesthetic agents have a marked but uniform and nonspecific effect on urine production and renal hemodynamics; vasoconstriction of both the afferent and efferent glomerular arterioles occurs.

So far as spinal anesthesia is concerned, Gregory and associates[74] found, in a study of hypertensive patients, that both inulin and Diodrast® clearances fell in every instance in which the blood pressure fell and remained low for as long as 15 minutes under spinal anesthesia. The degree of reduction in clearances was roughly proportional to the fall in blood pressure.

Moyer[75] discussed the temporary renal functional changes associated with major surgical procedures and agrees with the above. He pointed out, in addition, the reversal of the relationship normally existing between the rates of excreting sodium chloride and water of such solutions of varying tonicities, and a reduction in the rate of excreting chloride that is greater than that for sodium. One should take into account the postoperative inhibition of water diuresis in prescribing fluid therapy. Sodium chloride solutions should be given only when there is a specific indication for their use, as in extracellular fluid volume deficit. The carbon dioxide content should be determined before one decides whether to use sodium chloride or Hartmann's solution. In addition to shifts of body fluids, which are partly responsible for the changes listed above, afferent impulses arising in the operative area may be a factor of importance in these temporary changes in renal function. This was suggested by observations of effects produced by stimulation of nerves on water diuresis;[76] it has been suggested that such a hormone as ADH may be involved in these responses.

Cooper and his associates[77] stress the point that during the first 6 to 12 hours after operation, intravenous infusions should be limited to transfusions of blood to replace blood loss and 25 percent glucose in amounts necessary to replace water loss by the insensible channels.

Water Balance

Few reports of studies on plasma volume and extracellular fluid volume under anesthesia have been found. Stewart and Rourke[78] found, in 16 patients, an average reduction in blood volume of 13.4 percent during anesthesia. An increase in interstitial fluid volume was found. The latter was confirmed by Crawford[79] in a small series of cases.

Acid-base Equilibrium

There have been numerous reports on acid-base studies during anesthesia. Only the recent ones will be reported. Beecher and his associates[80] reported their findings on 20 patients under ether anesthesia. They found an average increase of fixed acid of 2.1 mM/l and an average decrease in carbon dioxide tension of 3.3 mm. Hg. In no individual case did the change exceed the normal variation,[81] so the changes are not of clinical significance. These results differ from early studies in which open-drop ether was administered. Beecher and Murphy[82] also studied the acid-base changes during thoracic surgery in 43 patients. Those undergoing lobectomies and pneumonectomies were in severe acidosis of combined respiratory and metabolic types. They showed no respiratory response to high tensions of carbon dioxide, probably because of the depressing action of ether on the respiratory center. The high tensions of carbon dioxide may be fatal, particularly in patients subjected to blood loss and surgical trauma. The high tension of carbon dioxide may possibly interfere with cellular oxidations to such an extent that fixed acids accumulate. The lateral position of the patient in thoracic surgery is the most important factor in producing these acid-base changes; there is marked interference with pulmonary ventilation. Such changes were not found in the supine or prone position, or the Overholt table, with the same depth of ether anesthesia.

Taylor and Roos[82] also found that patients undergoing pneumonectomies and lobectomies showed a greater degree of acidosis than other groups, under the same anesthetic.

Gastrointestinal Tract and Accessory Organs

Liver

Keeton and his co-workers[84] found that there is always a loss of nitrogen in the postoperative state. Convalescence includes not only the attainment of nitrogen equilibrium, but also repletion of the protein stores. It is essential to have the proper intake of protein. Some liver damage was indicated by an increase in urinary urobilinogen, retention of dye, and decrease in total plasma proteins. The operative load of cholecystectomy was heavier than such operations as herniorrhaphy.

Tagnon and his co-workers[85] found significant retention of bromsulphalein in patients (14 out of 20) who underwent extra-abdominal operations.

Pohle[86] studied icterus index, cephalin cholesterol flocculation tests, bromsulphalein retention, Quick's prothrombin time, and thymol turbidity in 154 patients. Of these, 65 had choloroform, 30 ether, 20 cyclopropane-oxygen, 9 Nupercaine spinal, 9 thiopental, and 21 Avertin®. The average age of the entire group was 51 years. The time during which anesthesia was administered ranged from 80 to 158 minutes. The tests were performed preoperatively and for two weeks postoperatively. There was a transitory decrease in hepatic function in 53 percent of the total. There was a change during the first few days, and the liver function had returned to normal in seven to 10 days. The incidence of abnormal liver function was 52 percent in chloroform, 60 percent in ether, 60 percent in cyclopropane-oxygen, 66 percent in spinal, 55 percent in thiopental, and 33 percent in Avertin®. The extent of the operation, the amount of blood loss, shock, and the nutritional state of the patient are all important in determining liver damage. There should be normal glycogen stores, adequate available protein, including lipotropic factors, an absence of excessive deposition of fat in the liver; all of these are fundamental in the preservation of normal function of the liver during anesthesia.

Sims and his associates[87] studied the effects of hypoxia and hypercapnia during anesthesia, on liver function. Even when supposedly optimal atmospheric gas concentrations were maintained, there was frequent impairment of hepatic function after surgical anesthesia. Either hypoxia or hypercapnia, acting alone, increase this damage to a generally similar degree. The type of operation, the occurrence of such operative or postoperative complications as marked falls in blood pressure, severe cardiac arrhythmias, and periods of respiratory obstruction influence the occurrence of such damage.

Habif and his co-workers[72] studied hepatic blood flow in five patients and found it decreased during anesthesia.

Intestinal Tract

Low potassium in the blood, as a result of curtailed intake or postoperative vomiting and dehydration, may be a factor in the appearance of postoperative ileus[88,89] or paralysis of smooth muscle of the intestinal tract. Potassium therapy leads to improvement, with reappearance of peristalsis.

The use of Dramamine® in the control of postoperative vomiting seems promising. It reduced the incidence of such vomiting about 50 percent.[90]

Temperature Regulation

Since the advent of the absorption technique, the body temperature has been found to rise 5° to 7° F., during long operations. Either cooling the inhaled gas or air-conditioning operating rooms might alleviate this situation.[91] It was found that the temperature of the gas which was being rebreathed was between 104° and 113° F.; when ice bags were applied to the cannister, the temperature dropped to 83°-87° F.[92] With this arrangement, respiration was easier, there was less laryngeal spasm, perspiration decreased, the heart rate and blood pressure rose less, and the body temperature remained near the normal level.

Bigler and McQuiston[93] found that fever occurred during surgery in 62 percent of the children observed between six months and 13 years of age, when not cooled. When patients were kept on mattresses through which cold water could be circulated, temperatures did not rise to such levels as in the uncooled group. The authors suggest that constant observation of body temperature should be added to that of the heart rate, blood pressure, electrocardiogram, electroencephalogram, and oxygen saturation of arterial blood.

Postoperative Care

The supervised emergence of anesthetized patients is most important.[94,95] The maintenance of open airway, adequate oxygenation, and the proper administration of fluid therapy are matters which need supervision in the immediate postanesthetic period.

The author wishes to express her appreciation to Dr. M. J. Oppenheimer and Dr. Leroy W. Krumperman for the suggestions offered, and to Miss Dorothy Ellis for her assistance in the preparation of the manuscript.

References

[1]Etsten, B., and Himwich, H. E., Stages and signs of Pentothal anesthesia; physiologic basis, Anesthesiology 7: 536-548, Sept. '46.

[2]Himwich, W. A., and others, Brain metabolism in man: unanesthetized and in Pentothal narcosis, Am. J. Psychiat. 103: 689-696, March '47.

[3]Himwich, H. E., Brain and symptomatology of anoxias, Anesthesiology 10: 663-672, Nov. '49.

[4]Wechsler, R. L., Dripps, R. D., and Kety, S. S., Blood flow and oxygen consumption of human brain during anesthesia produced by thiopental, Anesthesiology 12: 308-314, May '51.

[5]Kety, S. S., Physiological and physical factors governing uptake of anesthetic gases by body, Anesthesiology 11: 517-526, Sept. '50.

[6]Kety, S. S., Theory and applications of exchange of inert gas at lungs and tissues, Pharm. Rev. 3: 1-41, March '51.

[7]Gibbs, F. A., Gibbs, E. L., and Lennox, W. G., Effect on electro-encephalogram of certain drugs which influence nervous activity, Arch. Int. Med. 60: 154-166, July '37.

[8]Swank, R. L., and Foley, J. M., Respiratory, electroencephalographic, and blood gas changes in progressive barbiturate narcosis in dogs, J. Pharmacol. & Exper. Therap. 92: 381-396, April '48.

[9]Swank, R. L., Synchronization of spontaneous electrical activity of cerebrum by barbiturate narcosis, J. Neurophysiol. 12: 161-172, May '49.

[10]Swank, R. L., and Watson, C. W., Effects of barbiturates and ether on spontaneous electrical activity of dog brain, J. Neurophysiol. 12: 137-160, March '49.

[11]Faulconer, A., Pender, J. W., and Bickford, R. G., Influence of partial pressure of nitrous oxide on depth of anesthesia and electroencephalogram in man, Anesthesiology 10: 601-609, Sept. '49.

[12]Bickford, R. G., Automatic electroencephalographic control of general anesthesia, Electroencephalog. & Clin. Neurophysiol. 2: 93-96, Feb. '50.

[13]Courtin, R. F., Bickford, R. G., and Faulconer, A., Jr., Classification and significance of electroencephalographic patterns produced by nitrous oxide-ether anesthesia during surgical operations, Proc. Staff Meet., Mayo Clin. 25: 197-206, April 12, '50.

[14]Mayo, C. W., Bickford, R. G., and Faulconer, A., Jr., Electroencephalographically controlled anesthesia in abdominal surgery, J.A.M.A. 144: 1081-1083, Nov. 25, '50.

[15]McIntyre, A. R., Some physiological effects of curare and their application to clinical medicine, Physiol. Rev. 27: 464-477, July '47.

[16]Smith, S. M., and others, Lack of cerebral effects of *d*-tubocurarine, Anesthesiology 8: 1-14, Jan. '47.

[17]McCawley, E. L., Certain actions of curare on central nervous system, J. Pharmacol. & Exper. Therap. 97: 129-139, Oct. '49.

[18]Burstein, C. L., and others, Curare in management of autonomic reflexes, Anesthesiology 11: 409-421, July '50.

[19]Guyton, A. C., and Reeder, R. C., Quantitative studies on automonic actions of curare, J. Pharmacol. & Exper. Therap. 98: 188-193, Feb. '50.

[20]Foregger, R., Fatalities following curare, J.A.M.A. 142: 1344-1348, April 29, '50.

[21]Cushny, A. R., and Lieb, C. C., On pharmacology of respiratory center, J. Pharmacol. & Exper. Therap. 6: 451-471, March '15.

[22]Schmidt, C. F., and Harer, W. B., Action of drugs on respiration; ether, chloroform, chloral, urethane, Luminal, magnesium, caffeine, strychnine, and atropine, J. Exper. Med. 37: 69-81, Jan. '23.

[23]Moyer, C. A., and Beecher, H. K., Effects of barbiturate anesthesia (Evipal and Pentothal Sodium) upon integration of respiratory control mechanisms. Study directed toward improvement of methods for preclinical evaluation of anesthetic agents, J. Clin. Investigation 21: 429-445, July '42.

[24]Schmidt, C. F., Effect of carotid sinus and carotid body reflexes upon respiration, Anesth. & Analg. 19: 261-271, Sept.-Oct. '40.

[25]Dripps, R. D., and Dumke, P. R., Effect of narcotics on balance between central and chemoreceptor control of respiration, J. Pharmacol. & Exper. Therap. 77: 290-300, March '43.

[26]Bennett, H. A., Gray, C. E., and Cullen, S. C., Effects of large doses of barbiturates and morphine and scopolamine on respiratory minute volume exchange, Anesthesiology 10: 548-552, Sept. '49.

[27]Morton, H. J. V., Respiratory patterns during surgical anesthesia, Anesthesia 5: 112-128, July '50.

[28]Fulton, J. F., Textbook of Physiology, pp. 812-815, 16 ed., W. B. Saunders Company, Philadelphia, 1949.

[29]Gebauer, P. W., and Coleman, F. P., Postanesthetic encephalopathy following cyclopropane, Ann. Surg. 107: 481-485, April '38.

[30]Steegman, A. T., Encephalopathy following anesthesia, Arch. Neurol. & Psychiat. 41: 955-977, May '39.

[31]Schnedorf, J. G., Lorhan, P. H., and Orr, T. G., Problem of anoxia in surgery and anesthesia; report of experimental and clinical cases and review of literature, Arch. Surg. 43: 169-185, Aug. '41.

[32]Burdick, D. L., Lisa, J. R., and Elias, M. G., Anoxia and central nervous system; review and case report, Anesthesiology 10: 369-373, July '49; correction, 10: 756, Nov. '49.

[33]Hoff, E. C., Grenell, R. G., and Fulton, J. F., Histopathology of central nervous system after exposure to high altitudes, hypoglycemia and other conditions associated with central anoxia, Medicine 24: 161-217, May '45.

[34]Lewis, R. B., and Haymaker, W., High altitude hypoxia; observations at autopsy in 75 cases and analysis of causes of hypoxia, J. Aviation Med. 19: 306-336, Oct. '48.

[35]Lucas, B. G. B., Anoxia and anaesthesia, Proc. Roy. Soc. Med. 43: 606-612, March 31, '50.

[36]Seldon, T. H., and others, Postanesthetic encephalopathy; postulation of cerebral edema as basis for rational treatment, Proc. Staff Meet., Mayo Clin. 24: 370-374, July 6, '49; correction, 24: 404, July 20, '49.

[37]Bollman, J. L., Fazio, A. N., and Faulconer, A., Jr., Some factors influencing effects of anoxic anoxia, Anesthesiology 12: 420-430, July '51.

[38]Gruenwald, P., Mental deficiency of prenatal origin; a challenge to preventive medicine, Am. J. M. Sc. 214: 605-611, Dec. '47.

[39]Preston, M. I., Late behavioral aspects found in cases of prenatal, natal and postnatal anoxia, J. Pediat. 26: 353-366, April '45.

[40]Darke, R. A., Late effects of severe asphyxia neonatorum; preliminary report, J. Pediat. 24: 148-158, Feb. '44.

[41]Stephen, C. R., and others, Oximeter; technical aid for anesthesiologist, Anesthesiology 12: 541-555, Sept. '51.

[42]Latterell, K. E., and Lundy, J. S., Oxygen and carbon dioxide content of arterial blood before and during spinal analgesia, Anesthesiology 10: 677-689, Nov. '49.

[43]Penneys, R., and Thomas, C. B., Oximeter control of arterial oxygen saturation in anoxemia studies, Bull. Johns Hopkins Hosp. 82: 470-478, April '48.

[44]Behrmann, V. G., and Hartman, F. W., Value of continuous arterial oxygen saturation recording in anesthesia, J. Am. Assoc. Nurse Anes. **16:** 182-190, Aug. '48.

[45]McClure, R. D., Behrmann, V. G., and Hartman, F. W., Control of anoxemia during surgical anesthesia with aid of oxyhemograph, Ann. Surg. **128:** 685-707, Oct. '48.

[46]Waters, R. M., Relation of anesthesia to hypoxia and anoxia, J.A.M.A. **126:** 1068-1069, Dec. 23, '44.

[47]Barach, A. L., and Rovenstine, E. A., Hazard of anoxia during nitrous oxide anesthesia, Anesthesiology **6:** 449-461, Sept. '45.

[48]Seevers, M. H., Narcotic properties of carbon dioxide, New York State J. Med. **44:** 597-602, March 15, '44.

[49]Pettus, W. W., Geiger, A. J., and Grzebien, S. T., Effects of morphine on electrocardiogram of man, Yale J. Biol. & Med. **14:** 493-500, May '42.

[50]Wangeman, C. P., and Hawk, M. H., Effects of morphine, atropine and scopolamine on human subjects, Anesthesiology **3:** 24-36, Jan. '42.

[51]Drew, J. H., Dripps, R. D., and Comroe, J. H., Jr., Clinical studies on morphine; effect of morphine on circulation of man and upon circulatory and respiratory responses to tilting, Anesthesiology **7:** 44-61, Jan. '46.

[52]Johnstone, M., Pulse irregularities during thiopentone anesthesia, Anesthesia **6:** 138-143, July '51.

[53]Meek, W. J., Cardiac automaticity and response to blood pressure raising agents during inhalation anesthesia, Physiol. Rev. **21:** 324-356, April '41.

[54]Stutzman, J. W., Allen, C. R., and Meek, W. J., Prevention of cyclopropane-epinephrine tachycardia by diethyl ether, Anesthesiology **3:** 259-264, May '42.

[55]Milowsky, J., and Rovenstine, E. A., Use of ether to abolish arrhythmia during cyclopropane anesthesia; case report, Anesth. & Analg. **21:** 353-356, Nov.-Dec. '42.

[56]Nickerson, M., and Brown, H. O., Protection by Dibenamine against "spontaneous" arrhythmias occurring during cyclopropane anesthesia, Anesthesiology **12:** 216-224, March '51.

[57]Moe, G. K., and others, Role of arterial pressure in induction of idioventricular rhythms under cyclopropane anesthesia, J. Pharmacol. & Exper. Therap. **94:** 319-327, Nov. '48.

[58]Lenel, R., and others, Factors involved in production of paroxysmal ventricular tachycardia induced by epinephrine, Am. J. Physiol. **153:** 553-557, June '48.

[59]Kurtz, C. M., Bennett, J. H., and Shapiro, H. H., Electrocardiographic studies during surgical anesthesia, J.A.M.A. **106:** 434-441, Feb. 8, '36.

[60]Martin, H., and others, Etiology and treatment of serum potassium deficits, J.A.M.A. **147:** 24-30, Sept. 1, '51.

[61]Overman, R. R., Sodium, potassium and chloride alterations in disease, Physiol. Rev. **31:** 285-311, July '51.

[62]Bernreiter, M., and Calovich, E. R., Hyperpotassemia and hypopotassemia in case of anuria followed by severe diuresis; electrocardiographic changes, J.A.M.A. **147:** 1036-1038, Nov. 10, '51.

[63]Hershey, S. G., and Zweifach, B. W., Peripheral vascular homeostasis in relation to anesthetic agents, Anesthesiology **11:** 145-154, March '50.

[64]Levy, S., and Conroy, L., Prothrombin time and anesthesia; clinical investigation of effects of ether and spinal anesthesia on prothrombin level of blood, Anesthesiology **7:** 276-284, May '46.

[65]Smith, D. C., and others, Immediate effects of ether and Nembutal upon some of the blood components in cat, Am. J. Physiol. **152:** 6-10, Jan. '48.

[66]Pender, J. W., and Lundy, J. S., Changes of concentration of hemoglobin during anesthesia in man and in animals, Anesthesiology **5:** 163-165, March '44.

[67]Kohn, H. I., Changes in blood of rat during ether and barbiturate anesthesia, Am. J. Physiol. **160:** 277-284, Feb. '50.

[68]Foldes, F. F., Murphy, A. J., and Wilson, B. C., Effect of various anesthetic agents on inorganic serum phosphorus levels, J. Pharmacol. & Exper. Therap. **100:** 14-18, Sept. '50.

[69]de Bodo, R. C., Antidiuretic action of morphine, and its mechanism, J. Pharmacol. & Exper. Therap. **82:** 74-85, Sept. '44.

[70]Burnett, C. H., and others, Comparison of effects of ether and cyclopropane anesthesia on renal function of man, J. Pharmacol. & Exper. Therap. **96:** 380-387, Aug. '49.

[71]Selkurt, E. E., Hall, P. W., and Spencer, M. P., Graded arterial pressure decrement and renal clearance of PAH, creatinine and sodium, Federation Proc. **8:** 143, March '49.

[72]Pitts, R. F., and Duggan, J. J., Studies on diuretics. Relationship between glomerular filtration rate, proximal tubular absorption of sodium and diuretic efficacy of mercurials, J. Clin. Investigation **29:** 372-379, March '50.

[73]Habif, D. V., and others, Renal and hepatic blood flow, glomerular filtration rate and urinary output of electrolytes during cyclopropane, ether and thiopental anesthesia, operation and immediate postoperative period, Surgery **30:** 241-255, July '51.

[74]Gregory, R., and others, Studies on hypertension; effect of lowering blood pressures of hypertensive patients by high spinal anesthesia on renal function as measured by inulin and Diodrast clearances, Arch. Int. Med. **77:** 385-392, April '46.

[75]Moyer, C. A., Acute temporary changes in renal function associated with major surgical procedures, Surgery **27:** 198-207, Feb. '50.

[76]Theobald, G. W., and Verney, E. B., Inhibition of water diuresis by afferent nerve stimuli after complete denervation of kidney, J. Physiol. **83:** 341-351, Feb. '35.

[77]Cooper, D. R., Iob, V., and Coller, F. A., Response to parenteral glucose of normal kidneys and of kidneys of postoperative patients, Ann. Surg. **129:** 1-13, Jan. '49.

[78]Stewart, J. D., and Rourke, G. M., Changes in blood and interstitial fluid resulting from surgical operation and ether anesthesia, J. Clin. Investigation **17:** 413-416, July '38.

[79]Crawford, E. J., Changes in extracellular fluid volume, renal function and electrolyte excretion induced by anesthesia, reported at the Washington Meetings of the Am. Soc. of Anesthesiologists, Nov. '51.

[80]Beecher, H. K., Francis, L., and Anfinsen, C. B., Metabolic effects of anesthesia in man; acid-base balance during ether anesthesia, J. Pharmacol. & Exper. Therap. **98:** 38-44, Jan. '50.

[81]Shock, N. W., and Hastings, A. B., Studies of acid-base balance of blood; variations in acid-base balance of blood in normal individuals, J. Biol. Chem. **104:** 585-600, March '34.

[82]Beecher, H. K., and Murphy, A. J., Acidosis during thoracic surgery, J. Thoracic Surg. **19:** 50-70, Jan. '50.

[83]Taylor, F. H., and Roos, A., Disturbances in acid-base balance during anesthesia, J. Thoracic Surg. **20:** 289-295, Aug. '50.

(References continued on page 228)

Value of Regular Monthly Staff Conferences

OBSTETRIC, GYNECOLOGIC, AND PEDIATRIC DEPARTMENTS

Sister M. Eugene, R.N.

Hospitals for many years have held regular meetings for the general staff. Too few hospitals have seen the need for regular monthly meetings for the obstetric, gynecologic, and pediatric staff members. Combined meetings held regularly in these special departments would lead to a higher quality of patient care, to smoother functioning departments, and to a more stabilized teaching program for residents and interns. The following is a summary of a method of establishing regular meetings in the field of obstetrics, gynecology, and pediatrics in a general hospital.

Organization

First of all, the need for such a program must be recognized by the hospital administrator, staff, and supervisor of nurses in the obstetric department. Normally, very little persuasion is needed. The value of such conferences in improving the work of the department and in obtaining better interdepartmental relations is obvious. Once the need is recognized and approval secured, a place for the meeting and a convenient time for all participants is decided. If the hour most suitable for the chiefs of departments is agreed upon, it is comparatively easy to arrange schedules of other staff members.

In our situation, Sunday after lunch appears to be the most convenient time for all, as there is greater relaxation and less pressure from impending work at this time.

The place where the conference is held should be quiet and free from interruptions. Comfortable chairs add to the atmosphere of ease. We hold our meetings in the student nurses' conference room in the obstetric department. The meetings should begin and end promptly at the designated times.

Sister Eugene is Supervisor of Obstetrics, Mercy Hospital, Pittsburgh, Pennsylvania.

Participants

The staff obstetricians, gynecologists, pediatricians, residents, interns of the obstetric and gynecologic services, non-staff men, and chiefs of the allied departments whose problems are being discussed in the conference participate in the meetings. The nurse obstetric supervisor and her assistant are present.

Physician Interest

The obstetric supervisor will find every physician more than interested, as each has a problem or suggestion he wishes discussed. Occasionally, one or two may feel that meetings are unnecessary, but attendance at one conference serves to convince doubters of the great value of sharing and solving problems.

Planning the Program

The obstetric nursing supervisor mails postal cards to each physician to remind him of the date, the time, and the place of the meeting. Statistics are compiled for the previous month and given to the resident to present at the meeting. A report of the nurseries is obtained from the pediatrician in charge of the nurseries. All problems of the department, duties of residents and interns, nursing care, and departmental routine are aired and discussed openly and with sincerity. These discussions solve many irritating problems which may cause discord and the shifting of responsibility in the everyday routine of the department.

In establishing better interdepartmental relations, it has been found that staff conferences are more successful than other devices. Allied departments are invited to attend meetings which are centered around problems of their particular field. Greater cooperation can be obtained from all departments by sharing the views and presenting both sides of problems.

Frequently a lack of cooperation is due to a failure of departments to recognize the need and

underlying reasons for special departmental requests. The chiefs of the other departments are called to give their opinions on cases which come within their sphere of specialization. For example, the radiologist is invited to give the technique of roentgen pelvimetry; the anesthesiologist to discuss the best means of obtaining analgesia before and during delivery, and so on.

Additional information on the scheduling of interdepartmental programs is given in the outline which concludes this paper.

Results

Staff conferences result in the creation and strengthening of the bond of fellowship among the doctors, a feeling of pride in the good accomplished, and an earnest desire to improve the work of the department. The tangible results show in the lessening of the fetal mortality rate, quicker and better treatment of maternal complications, revision of nursing procedures, smoother working relations within each department and with other departments, improved training of residents and interns, the "ironing out" of problems common to all departments, and, finally, in the compilation of statistics and reports valuable to research and study, a service to the medical profession in general.

In view of the results demonstrated over a period of time, it can be stated authoritatively that staff conferences of the obstetric, gynecologic, and pediatric departments are not only an asset, but also a necessity in all hospitals. The discussion at such conferences is stimulating and the participation universal.

Yearly Outline For Staff Conferences

This outline may be modified as problems or interesting cases arise in the departments.

September:—The chief of obstetrics conducts the first meeting and acts as general chairman for the year. He presents the routine of the department to the residents, interns, and nursing supervisors of the department. An outline of each one's duties is presented at this time. A secretary is appointed to record the minutes of each meeting. A summary of the obstetric statistics for July and August is read.

October:—The chief of gynecology presents routines to be followed upon admission of a patient to this service. He discusses routine treatment and medications.

November:—The pediatrician in charge of nurseries presents the routine treatment of normal newborn infants, of prematures, and of abnormal or unusual cases. He also discusses standards of care.

December:—In a Catholic hospital the chaplain or guest priest discusses ethics applicable in these departments.

January:—The anesthesiologist discusses premedications and types of anesthesia and their possible effect upon the mother and unborn infant. He also discusses resuscitation of the newborn.

February:—The roentgenologist discusses roentgen pelvimetry. Roentgenograms of interesting cases are shown. This leads to a discussion of cephalopelvic disproportion.

March:—The hematologist is asked to discuss the treatment of the Rh negative mother, the treatment of the Rh negative infant, the type of blood to be used for transfusion, and the value of repeated testing for change of titer during the pregnancy.

April:—The physician in charge of medical service is asked to discuss medical problems relating to the diabetic patient, the cardiac patient, the tuberculous patient, and others before, during, and after delivery. He considers the antepartum and postpartum care as well as the delivery. The care of infants of such mothers is given especial attention.

May:—The record librarian is invited to give the value of accurate record keeping. The value of records for future planning as well as for research is stressed.

June:—The radiologist discusses therapy of the female reproductive organs.

July and August:—No meetings are held because of vacations.

It should be noted that at each of these meetings the statistics for the previous month are read. Each month a case of interest is presented by a resident physician.

Medical Women in Israel

THEIR FIELDS OF WORK*

Golda Fischer, M.D.

THERE ARE IN ISRAEL at present about thirty-two hundred physicians for a population of a million and a half. This ratio seems extremely high, but actually the need for medical care among the immigrants is much greater than the normal. Another fact to be considered is that nearly half of the women practitioners in Israel are over 50 years of age, and less than one-fifth are under 40.

Of these medical women, 214 are in general practice; 116 are pediatricians; 65 are obstetricians and gynecologists; 30 are internists; and 29 are ophthalmologists. Only 10 practice surgery, one of these specializing in orthopedic surgery; 14 are dermatologists; 17 are roentgenologists; and 6 specialize in tuberculosis.

Those in private practice usually have their offices in their homes, because of the extreme shortage of housing, and few employ office nurses, again because of the shortage of nurses and help in general. Cars are owned by only a small number and so house calls are made with difficulty. Collections are good, since payments are in cash; but the income tax is enormous because of the present great needs of Israel in settling the immigrants and building up the country. There are about eight thousand hospital beds in the country, of which thirty-five hundred are in Government and Municipal hospitals and fifteen hundred in private institutions. The remainder are in hospitals supported by Hadassah and other organizations. However, these figures are of January 1, 1951, and hospitals are now being built as rapidly as materials can be secured. It is hoped that during 1952 an additional thousand beds will become available.

Patients who cannot afford private service are cared for by the Government and Municipal hospitals, the Hadassah Medical Organization, and the Kupat Holim. In these institutions medical women have equal opportunity with men for full time employment. Through arrangement with the Jewish agencies, the Government supplies medical care for the first three months for all new immigrants. Government physicians are responsible for screening the immigrants on their arrival and sending them to a transients' camp, a general hospital, or a tuberculosis hospital.

Hadassah, a voluntary organization of American Zionist women and one of the largest women's organizations in the world, numbering some three hundred thousand members, was founded in 1912 by Miss Henrietta Szold, a teacher in Baltimore, and from its inception has sponsored medical care in Palestine. The first medical unit arrived in Palestine in 1918, and became the nucleus of the Hadassah Rothschild University Hospital. An outstanding event was the opening on Mount Scopus, in 1937, of a modern, well equipped, well staffed medical center for sound postgraduate training. In 1948, during the Battle for Jerusalem, Hadassah treated most of the casualties in the Jerusalem zone. When the Medical Center was cut off after the ambush and massacre of the medical and university staffs, Hadassah set up a series of emergency hospitals in Jerusalem, and it is in these that medical care is still given to the immigrants and facilities are provided for the finally established Medical School of Israel, from which the first class was graduated in 1951.

In addition to its clinical services, Hadassah has established a network of preventive health services which have set the standard in child welfare and maternal care. The Henrietta Szold School of Nursing, with an enrollment of 110 student nurses, is carrying on in temporary quarters. As the pioneering body in the country Hadassah has gone to serve wherever medical care was most needed. It was the first to start a children's hospital in an immigrant camp in Rosh Haayin, the first to enter the Negev and establish a hospital in Beersheba, and to go to Galilee to build a larger tuberculosis hospital. The Government Leprosarium is staffed by the Hadassah Dermatological Department. The Lasker Mental Hygiene and Child Guidance Clinic of Hadassah is doing pioneer work in aiding the adjustment of immigrant children. Hadassah's

*Part III of a series of three articles

The Kupat Holim, Beilinson Hospital today.

wide network of health welfare stations and school hygiene services plays an important part in assuring child health. In research and in preventive medicine Hadassah also leads and it is to be hoped that its beautiful buildings on Mt. Scopus will soon be returned to its control.

Kupat Holim (Workers' Sick Fund), the health service of the General Federation of Jewish Labor in the State of Israel, was founded in 1912, by the workers and is based on mutual aid. Beginning with isolated dispensaries, it now supports a wide network of institutions serving about 60 percent of the population. These include 13 general and special hospitals with up-to-date equipment and high standards. An outstanding feature is the "Mothers' Oasis" where mothers whose home conditions are not suitable are received with their babies for 10 days of convalescence and instruction after discharge from the hospital. Medical care is provided everywhere in the country. There are 700 divisional clinics and 15 central ones for ambulatory patients. Patients requiring roentgen examinations, orthopedic surgery or other special care are referred to these central clinics. Infant Welfare Stations are maintained and school physicians are supported. Kupat Holim also supports training schools for nurses in its two larger hospitals and a special training school in its new tuberculosis hospital. Health education is conducted through popular lectures in factories, schools, and settlement houses, where periodical examinations are also given.

Membership fees are paid directly to the General Federation and amount to about 4 percent of the worker's salary. Out of this Kupat Holim receives about 40 percent to cover its budget. The employer voluntarily adds 3 percent of the amount paid by the workers. A fully covered Kupat Holim member receives 90 days hospitalization a year absolutely free. All out-patient care, including drugs, is also free. The family of the worker pays a small additional fee (about 25 percent of the cost) for services received or can be fully covered by an additional payment. In cases of chronic diseases the invalid fund takes over.

Physicians are employed on a full time basis and work 40 hours a week with one month's vacation with pay. They usually have their own group of patients whom they see at the clinic or at home during the hours on duty. As an additional service Kupat Holim pays half the cost of personal subscriptions to medical journals and also maintains a large medical library.

Other Zionist groups have health insurance plans similar to that of Kupat Holim but without their own hospital facilities. A plan modeled on the American Blue Cross has also been started.

There are many small private and voluntary hospitals as well as mission hospitals. The largest are Assutah in Tel-Aviv, built in 1935, by the joint

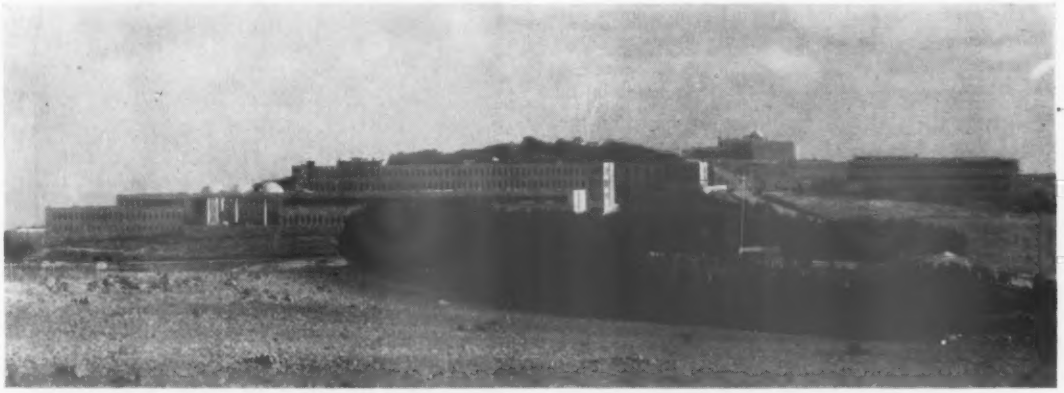
energy and capital of more than 30 physicians, with a nominal capacity of 110 beds, and the Elisha in Haifa, built in 1949 by a group of specialists, with a nominal capacity of 80 beds. Both hospitals maintain training schools, are of modern construction, and are well equipped.

Other institutions deserving mention are the children's homes and infant care centers of the Women's International Zionist Organization, and Malben which was established through a combination of the Israeli Government, the Jewish Agency, and the American Joint Distribution Committee, with the aim of giving medical care and rehabilitation to immigrants arriving after the inauguration of the State, and who because of chronic illness, age, or physical handicaps require long-term or permanent care. Tuberculosis being a serious problem among new immigrants, Malben set itself the task of providing one thousand new beds for tuberculous patients. The rehabilitation of the blind is a special concern of Malben. Children are placed in the Blind Institute in Jerusalem; and adults, after completing a vocational course, are settled with their families in a village for the blind. Mentally defective children are also cared for by Malben, as are the aged and the chronically ill.

Though the conditions of practice in Israel are difficult, medical women there are patiently and cheerfully carrying the ever increasing burden of service to a population which, as a result of the rapid immigration of people in poor physical condition, requires proportionately greater medical attention than did the original settlers. Many years of hard work and limited opportunities for postgraduate study leave our colleagues with a fervent desire for study abroad, particularly in the United States. Cooperation in offering hospital residencies for refresher courses and specialization would be a welcome gesture.

Hadassah Well Baby Clinic in 1935. Nurse demonstrating orange juice for babies to mothers from Iran, Iraq, and Turkistan.

The data on which these articles are based were obtained by personal visits to most of the medical institutions, by personal discussions with many doctors, and through statistics supplied by the Israeli Government. Although acknowledgment cannot be made to all who gave their time, the author must express particular gratitude to Dr. Moshe Sherman, president of the Israeli Medical Association; Dr. Chaim-Sheba, director general of the Ministry of Health; Dr. S. Plashkes; Dr. Anna Jacob, president of the Israeli Women's Medical Association; Dr. Tova Berman, Medical Director of Kupat Holim; and Dr. Eli Davis, Director of Hadassah Medical Organization.



Hadassah University Hospital on Mount Scopus and the Henrietta Szold School of Nursing. Hebrew University in the background.

World Health Organization

In March, Dr. H. Moller, BCG adviser at WHO's Regional Office for the Eastern Mediterranean at Alexandria reported that some 5,000 school children had been tested in an anti-tuberculosis campaign undertaken in Aden by the United Nations International Children's Emergency Fund and the World Health Organization with the Government's cooperation. Dr. Moller made this report after he returned from a visit to Aden. The international team in charge of the campaign started work late in January and will remain until all children, some 40,000, have been tested. All those who do not react positively will be vaccinated.

* * *

According to conclusions reached by the WHO's Expert Committee on Trachoma, which opened in Geneva in March under the chairmanship of Dr. G. Bietti (Italy), trachoma is curable and in the light of present knowledge it should be considered in general only mildly contagious except in young children. Treatment combining sulfas and antibiotics was found to be completely effective against most cases of trachoma. The experts based their opinion on their own personal experience as well as on the results of tests conducted under WHO auspices during the past 18 months in the Middle East where several thousand persons have been successfully treated. Aureomycin and terramycin were found by the experts to be the most effective drugs in the treatment of the disease, and the committee established treatment schedules for mass campaigns based on the use of these products. Trachoma control measures should be included in all allied eye infections and in epidemic conjunctivitis, it was stated. The committee outlined a model control plan for attacking this disease group in underdeveloped areas.

The prevention of the spread of trachoma in international travel must henceforth be based on the fact that it is only mildly contagious, the experts emphasized. From the point of view of world traffic, a clear distinction must be made between travelers in transit and immigrants. Chronic trachoma cases can be accepted in transit travelers without quarantine restrictions, the committee stated. Those suffering acute forms should be treated until they become non-contagious before embarking for international travel. The medical examination of prospective migrants should be carried out twice at 2-month intervals. The first examination would allow finding and treatment of trachoma cases; when cured, the patient would receive at a second examination a medical certificate permitting emigration. To facilitate interpretation of medical certificates, the committee proposed the universal adoption of specific trachoma nomenclature which would supersede all other classifications.

Finally, the experts established a list of some 50 important research problems concerning trachoma whose solution might be possible through international action. The chief problem, they found, was the need for a suitable method of producing trachoma virus in significant quantities for experimental purposes.

* * *

In March, an international symposium on the control of yaws was held in Bangkok, Thailand, under the auspices of the Government of Thailand and the World Health Organization, in cooperation with the United Nations International Children's Emergency Fund, with medical specialists present from some 20 countries in Asia, America, and Europe. The purpose of the symposium was to pool information and experience gained in recent years on yaws and its treatment by penicillin; to make a detailed study to establish the relative value

The Tiger Jungle: Haldwani. A nurse regularly takes blood samples for signs of the disease. In one district the malaria rate among infants was 53.7 percent. The following year it was nil.

of newer yaws control techniques; and possibly to standardize some of the procedures involved. Among the participants were several with first-hand experience in the mass treatment campaigns now in operation in remote rural areas in Indonesia, Thailand, and Haiti with the assistance of WHO and UNICEF. Their contribution was expected to be especially valuable for Asian countries, including the Philippines and Malaya, planning to launch yaws control campaigns soon.

The symposium program included formal papers and discussion on the biology of yaws; use of penicillin in treatment of yaws; extent and nature of the yaws problem; methods of planning, organizing, and operating anti-yaws campaigns; and the role of international organizations in yaws control work. After a week of meetings and discussions in Bangkok, participants spent a week at a field demonstration and training seminar in Ubon, northeast Thailand, one of the areas in which the Thai Government has launched a large scale anti-yaws campaign with international assistance. A number of World Health Organization specialists from WHO headquarters in Geneva and from WHO's Southeast Asia Regional Office in New Delhi participated in the meetings.

* * *

Two members of the staff of the World Health Organization's Regional Office for the Eastern Mediterranean at Alexandria—Dr. A. Macchiavello, director of Health Services, and Dr. Wasfy Omar, epidemiologist—left for Khartoum to investigate the spread of cerebrospinal meningitis in the Sudan and plan its control. They visited the Sudan at the request of the Ministry of Public Health at Khartoum. They took with them medical supplies and drugs for emergency measures, and more quantities will be shipped later. The Eastern Mediterranean Regional Office allocated $15,000 for this.

In its request for assistance the Ministry of Public Health in the Sudan also asked for the services of Arabic-speaking doctors. Dr. A. T. Shousha, director of the WHO Regional Office, consulted the Egyptian Government and Radi Abou Seir Radi Bey, Minister of Public Health, who agreed to send six Egyptian doctors to undertake control measures.

DID YOU KNOW—

Approximately 4 billion dollars a year has, in recent years in the United States, been contributed through philanthropy? In 1948, 4 billion dollars was spent for tobacco and 10 billion for alcoholic beverages. Sixty percent of the total contributions to philanthropy came from individuals with incomes of less than $3,000 per year. (From "Philanthropic Giving" by F. Emerson Andrews, published by Russell Sage Foundation, 1950.)

* * *

Fossil findings indicate that prehistoric man lived on an average about 18 years, while burial inscriptions point to anywhere from 20 to 30 years as the average life span of the ancient Romans. In 1900 the average length of life in the United States was 49.2 years, and this figure has risen by more than one-third to 67.2 years in 1948, a gain of 18 years. (From "Health Progress in the United States" by Mortimer Spiegelman, published by American Enterprise Association Inc., 1950, New York.)

* * *

Jefferson Medical College, now 127 years old and until recently the largest of the country's medical schools, is in the unique position of being the only medical college in the Western Hemisphere which does not accept women students?

The Board of Governors of the American Red Cross has decided that Red Cross blood donors in the United States no longer will be asked to specify their race? In taking this decision (at its annual meeting in Chicago), members of the board emphasized that race is not a factor conditioning human blood. (UNESCO).

* * *

There are 32 members on the National Board of Medical Examiners of the United States but nary a woman on the Board?

* * *

Today life expectancy is about twenty years longer than it was in 1900? More Americans can expect to live well into their seventies, eighties, and nineties. Aging brings with it new and challenging problems that must be recognized. In an effort to help people understand what some of the common problems of aging mean to the individual, his family, and his community, the Federal Security Agency has issued a guidance booklet entitled "Looking Forward to the Later Years." The booklet, which was prepared by the National Institute of Mental Health, Public Health Service, underlines the importance of getting a good start on planning for happy and fruitful years ahead.

Opportunities for Medical Women

OPPORTUNITIES IN THE FOREIGN MISSION FIELD

Two appointments are available in Anesthesiology. Experience in chest and neurosurgery desirable. A diplomate with teaching experience needed in Ophthalmology. Surgical experience not essential for qualification. An opening in Physiology requires an M.D. and experience in teaching. Application should be made by cable at once to Dr. H. M. Lazarus, Director, Christian Medical College, Vellore, South India. A letter of recommendation should be sent via air mail from your local church pastor or mission board.

FOREIGN FELLOWSHIPS

Information regarding foreign fellowships comes to this department from time to time but usually too late for publication before the closing date for applications. An attempt is being made to obtain this data earlier for the coming year. In the meantime it seems appropriate to list the following sources of information so that those interested may inform themselves of available opportunities directly.

"Study Abroad." This UNESCO handbook contains information on international fellowship programs. It may be obtained from the Columbia University Press, 2960 Broadway, New York, New York. Price $2.00.

"Scholarships, Fellowships and Loans," is a two volume edition edited by S. Norman Feingold and published by the Bellman Publishing Co., 83 Newbury Street, Boston, Massachusetts.

COLLEGE PHYSICIAN WANTED

A resident physician is needed immediately at Wilson College, Chambersburg, Pennsylvania. The college has four hundred students; there is an infirmary with full time nursing staff. A Pennsylvania license is required. For information, write to Paul Swain Havens, President, Wilson College, Chambersburg, Pa.

INTERNSHIPS AND RESIDENCIES AVAILABLE

Women and Children's Hospital, Chicago, has available internships and board-approved residencies. Stipends range from $50 to $125 per month. The hospital has 111 beds. For further information address Dr. Victoria Vacha, Chairman Internships Committee, Women and Children's Hospital, 1600 West Maypole Avenue, Chicago, Illinois.

* * *

Obstetrical Residency: First and second year woman resident for newly formed program in obstetrics beginning July 1, 1952. Admissions number 1,650 yearly, one-third ward. Minimum gynecology. Affiliated course in obstetrical and gynecological pathology, second year. Apply: Administrator, New England Hospital, Dimock Street, Boston, Massachusetts.

AWARDS AND GRANTS

Two six-month scholarships in leading plastic surgery services in the United States, England, and Italy are being offered in the junior classification of the 1952 Essay Contest in Plastic and Reconstructive Surgery sponsored by the Foundation of the American Society of Plastic and Reconstructive Surgery, Inc. The junior classification is open to those who have been practicing plastic surgery for not longer than five years. The Foundation's annual prize of a silver plaque will be awarded in the senior classification for the best essay presented at the annual meeting of the American Society of Plastic and Reconstructive Surgery. All entries must be received by the award committee not later than September 1, 1952. Further inquiries should be addressed to The Award Committee, c/o Dr. Jacques W. Maliniac, 11 East 68th St., New York 21.

* * *

The American Association of University Women announces the Ida S. Scudder International Grant of $500, a gift of the Scudder Association, to help a woman physician from India to study in the United States. Dr. Scudder celebrated in 1950 her golden jubilee of medical work in India. Training of women in medical work was one of her most important accomplishments. In 1918 she founded the Vellore Christian Medical School for women; the school is now affiliated with the University of Madras and has recently admitted men students.

American Medical Women's Association

MESSAGE FROM THE PRESIDENT

THE BOARD OF DIRECTORS and the President of the American Medical Women's Association bring to each member greetings! The Annual Meeting which has just been held at the Blackstone Hotel in Chicago is now over; the new President has been installed; the new Executive Committee and the Board of Directors have had their first meetings to plan the work for the coming year. We pledge our loyal support to the tasks delegated to us for the year to come!

Our American Medical Women's Association is a group banded together by common interests, not only for our own benefit and pleasure, but also for assistance to younger women wherever possible. It is an organization in addition to the local and national medical societies to which we all belong. It is worth working for. We may well be proud of its accomplishments, tangible and intangible. As examples, let me mention the work of the American Women's Hospitals which Dr. Lovejoy, in her spirit of devotion, has carried on so ably with the help of her committee; the JOURNAL of which we are proud, and which serves as a medium of communication with our members; the Scholarship Loan Fund which has helped many women medical students complete their work; and our participation in the activities of the Medical Women's International Association of which we are all members. It is a well known fact that the more one puts into a project the more one receives from it. How can we know the pleasures of working with the members of our own group unless we have been a part of that work? Granted, such work involves responsibility; but there are compensations which make it worthwhile.

If you feel that you cannot give much time to the Association affairs, here are some things that can still be done (with little effort):

1. Send in to the JOURNAL news items concerning personal activities and professional accomplishments of the members in your own group. Read the JOURNAL. Be informed on the affairs of the Association both nationally and internationally.
2. Support the local branch if there is one in your community. Talk about the Association to the women in your own area, especially the younger women. Explain the advantages of membership, and invite them to join.
3. Lend a helping hand to medical students and younger women doctors.
4. Attend the Mid-year and Annual Meetings of the Association.

If you have more time to give, then you may be willing to accept greater responsibility, whether it be as chairman or member of a committee. We hope this year that the committees will begin work immediately, will outline the projects for the year early, and will carry out their plans with enthusiasm and efficiency. We are planning meetings of all committees at the time of the Mid-year Meeting which usually is held early in November. This is a democratic organization. Our members are urged to participate in its administration, and to acquaint themselves with the work of the Association and the problems which confront it. In the year 1887, John Morely delivered an "Address on Aphorisms." A whole philosophy of life is summed up in one sentence which he uttered on that occasion:

"The business of life is to do; to be;
to do without; and to depart."

This year, I invite each member "to be" an active member and "to do" her part to make this year one of great accomplishment.

At the Olympic Games, this inscription is seen in large letters at one end of the stadium:
"The important thing in the Olympic Games is not winning but taking part."

Our slogan for next year should be:

EVERY MEMBER A PART

Evangeline E. Stenhouse

MARY RYERSON BUTIN, M.D.

Among the eager group of pioneers who chose Madera, California, as the site of the John Brown Colony, were Dr. John L. Butin and Dr. Mary Ryerson Butin, his wife, destined to become vital forces in the development of the town. Their story is one of unflagging zeal and unselfish service. Dr. Mary Butin's spirit was courageous and her record is full of varied experiences as physician, citizen, and patriot.

Picture the early childhood of this pioneer, brought up on a bleak farm in Iowa. The idea of studying medicine was implanted in her young mind by a wise mother who foresaw the need for women physicians. So encouraged and also strongly influenced by Dr. Anna Longshore Potts, Mary Ryerson entered the State University of Iowa College of Medicine, Iowa City, a coeducational institution where the students numbered 90 men to 10 women. For her second year she enrolled at the Woman's Medical College of Chicago, from which she was graduated in 1881.

Dr. Ryerson settled in Dorchester, Nebraska, and became the first woman member of the Nebraska State Medical Society. Here she met and married Dr. John L. Butin. In her "Life's Story," written in 1932, the manuscript of which is now in the Women in Medicine collection of the Matas Medical Library, Tulane University, New Orleans, Dr. Butin recounted experiences as thrilling as fiction. She wrote of the hardships of the Nebraska winters, of driving a pair of spirited bronchos over icy roads and through snowstorms in below-zero weather; of midnight calls to deliver "bundles from heaven;" of long journeys and little time for rest, for reading, or for the writing she loved to do. Exposure to this frigid weather affected her husband's health and it was necessary to seek a warmer climate, and California was chosen.

Traveling westward over the Rockies, through the snowsheds of the Sierras and the verdant Sacramento Valley, they reached Madera in 1891, and soon established an active practice. A home was purchased; an automobile replaced old Dobbin and the phaeton; and nurses came.

In public and professional services the lives of the two Doctors Butin ran parallel. Their interests widened. He became active as a civic worker and for many years served as president of the local bank. In 1902, she was appointed city and county health officer, the first instance of a woman receiving such an appointment in the United States, and held the position for 13 years. For the first time births and deaths were recorded in the county; contagious diseases were reported and quarantined; dairies, restaurants, and slaughter houses were inspected; tuberculin tests of cows were made compulsory; and later, pasteurization was enforced. Through her zeal and courage other reforms were added. She found time to contribute to the work of public and civic organizations, to take an active part in the fight for woman's suffrage, to work as an active Democrat in presidential campaigns. Dr. John Butin was instrumental in bringing Chautauqua to Madera, and their home was a center of culture. Always Dr. Mary Butin's first interest was public health service. She advocated full time health officers and succeeded in procuring one such officer for Madera County and, in time, for each of the seven counties of the San Joaquin Valley. She re-

mained active until her death in March 1944, eleven years after her husband had died.

In the foreword to Dr. Mary Butin's memoirs we read: "Between its narrow confines the stream of my life has run deep and swift; from its placid smiling surfaces none might guess how deep the waters, how strong the current, or how dangerous the rapids. My joys have been heightened and sorrows mitigated as I have striven to aid others, and all life in consequence has taken on a greater depth of meaning. I am convinced that no woman ever studies medicine or pursues the practice of it, but who is called to higher purposes."

ELIZABETH BASS, M.D.

ALMA MATILDA LAUTZENHEISER ROWE, M.D.

"One day there came to me a lovely young woman, a teacher, Alma Lautzenheiser, who said that she would like to study medicine," wrote Dr. Mary Ryerson Butin, then practicing in Dorchester, Nebraska. Thus in the fall of 1889, Alma Lautzenheiser entered the Woman's Medical College, Northwestern University, and during her last year of study married Ellis Joy Rowe, a student at Rush Medical College. After a year, Doctors Ellis and Alma Rowe moved to Beaver Crossing, Nebraska. In 1897, Dr. Alma Rowe was appointed resident physician at the Nebraska Industrial Home, Milford, which position she held until 1900, when a move was made to Forest, Mississippi, in the hope that a warmer climate would benefit her husband, a sufferer from asthma. Again, in 1906, the Rowes moved to Hillsboro, Mississippi with their five daughters, the youngest but one year old. Of the daughters, Alita dreamed of following in her mother's footsteps and was studying at the University of Mississippi when she was drowned while swimming.

We learn of Dr. Alma Rowe's brief life from her daughter, Mrs. Earle Rowe Glenn. Her maternal ancestry dated back to 1730, when Johannes Nicholas Kemmerr came to America from Germany at the age of 17. Descendants of these early settlers have lived in Pennsylvania since that date. Both Dr. Rowe and her husband had many professional, civic, and social interests, were active in amateur theatricals, and loved music and good books. They put into daily practice their philosophy of making the world a better place for those whose lives they touched. "My mother," writes Mrs. Glenn, "regarded her profession as a sacred obligation. Although small and of slight stature, her endurance equalled the demands of her profession and her family. Her pregnancies interfered only temporarily with her practice. Because of her keen intellect and her proved ability, there never seemed to be a question concerning her place in the medical profession. . . . My mother was concerned about the harmful features of current fashions in clothing for women and teenage girls. She advocated foundation garments that conformed to the natural lines of the body, suspended from the shoulders, rather than the tight corsets that contracted the waist and pushed the abdominal organs downward. She strongly disapproved of the heavy petticoats that hung from the waist and she frowned upon the lengthy baby clothes then in vogue. Her own babies served as models for her conception of correct fashions for the very young."

Dr. Rowe was a skilled horsewoman and drove her spirited team on calls regardless of distance or weather. Her gay spirit was reflected in a love of color and she managed to wear a bit of red, her favorite hue, which fashion at the time decreed was a color unsuited to a person of her age. She was but 38 at the time of her death.

—ELIZABETH BASS, M.D.

News of Women in Medicine

BLACKWELL AWARDS OF THE NEW YORK INFIRMARY

FIVE PROMINENT American women physicians received the annual Elizabeth Blackwell citations presented on January 20, 1952, by the New York Infirmary for outstanding contributions to the field of medicine. The Elizabeth Blackwell Awards were established four years ago by the New York Infirmary's Board of Trustees as a means of bestowing recognition on women doctors who have made significant contributions to the practice and teaching of medicine. The awards are presented each year on the anniversary of Dr. Blackwell's graduation from medical school in 1849.

Scores of women doctors were considered for awards by a committee appointed by the New York Infirmary. The chairman was DR. KATHERINE DODGE BROWNELL, associate clinical professor of pediatrics, New York University College of Medicine; and the secretary was DR. LEONI N. CLAMAN, director of allergy at the Infirmary. The awards were presented by Mrs. Frank A. Vanderlip, president of the Board of Trustees.

ETHEL C. DUNHAM, M.D.

The New York Infirmary hereby makes this citation of DR. ETHEL C. DUNHAM in recognition of her distinguished achievements in the study and improved care of premature infants. During her long association with Yale University and the United States Children's Bureau, Dr. Dunham created an interest in and developed a knowledge of the premature baby that makes her one of the outstanding experts of the world. Her publications have been numerous and comprehensive, showing, in the early ones, an interest in wide aspects of pediatrics, then focusing on the newborn, and eventually concentrating on the premature infant. Dr. Dunham has made a significant contribution to public health in tackling realistically the problems of premature labor and of improved care of premature infants. She has served with many welfare agencies, has been a member of the United States Children's Bureau as director of the Division of Research in Child Development, and was, for two years, consultant to World Health Organization on premature infant care. Her "Manual for Physicians—Premature Infants" is widely used all over the world. Dr. Dunham's integrity and very real human qualities have endeared her to all who have known her, in a measure equal to the esteem in which she is held because of her scientific accomplishment.

EDITH L. POTTER, M.D.

The New York Infirmary hereby makes this citation of DR. EDITH L. POTTER in recognition of her distinguished achievements in the field of infant pathology. After completing her medical studies and postgraduate training, Dr. Potter entered private practice, but soon decided to continue investigative work in pathology, and eventually concentrated on diseases of the newborn. This led to intensive and comprehensive research resulting in important contributions to the knowledge of causes of stillbirths and early infant deaths. As a consultant since 1936 to the Chicago Health Department on its program to reduce infant mortality, Dr. Potter has been able to apply practically, in public health procedures, the results of her research. She has been able to bring into harmonious working order the research department of the University of Chicago, and the local governmental departments. Dr. Potter has published many papers dealing with problems of the fetus and newborn, and has written four books, all of great value. Her study of some ten thousand autopsies done under her personal direction in Chicago is monumental.

ANNIE V. SCOTT, M.D.

The New York Infirmary hereby makes this citation of Dr. Annie V. Scott in recognition of her distinguished achievements in the practice and teaching of pediatrics in foreign missions. After receiving her medical education and practical training at Woman's Medical College of Pennsylvania and in hospitals in New York City, she went to China. There, for many years, she taught pediatrics at Chee Loo University where she holds the position of professor of pediatrics and chief of pediatrics service. In these positions she has had great influence upon many students and has always maintained the highest ethical and scientific standards. She has been an important factor in the extension of clinic services in urban and rural areas in China. She is a true scholar in the field of pediatrics, and has always kept abreast of the latest scientific advances. She has used the periods when she is in the United States to continue her work as a member of the staff of Babies Hospital, New York. Through many experiences which might have daunted less devoted souls, she carried on with magnificent equanimity and extraordinary moral courage. During the civil wars in China she quietly persisted in the care of her patients even when between battle lines, and even when, several times, circumstances necessitated the migration of the whole University and Hospital. Though her institution and the students whom she has trained are now behind the Iron Curtain, it is certain that through the example of her resourcefulness, courage, and faith her influence will continue to be felt for many years even under the communist regime.

* * *

The New York Infirmary hereby makes this citation of Dr. Martha M. Eliot in recognition of her distinguished achievements in child welfare and international public health. Dr. Martha Eliot's name, throughout her whole career, has been synonymous with improvement in maternal and child care, first in the United States and then throughout the world. As associate chief of the United States Children's Bureau she was instrumental in helping develop broad maternal and child health and crippled children's programs throughout the United States. She stimulated the development of a team approach in medicine and public health and an awareness of the importance of preventive medicine. She was president of the American Public Health Association. Called from the Children's Bureau to serve for a period in the important post of associate director of the World Health Organization,

MARTHA M. ELIOT, M.D.

she had the opportunity to spread her doctrines of public health throughout the free world. Her department was that of Advisory Services, which aided governments in planning and putting into operation specific programs for improving the health of their peoples. She has now returned to this country to become Chief of the United States Children's Bureau where her characteristics of indefatigable energy, and administrative ability, vision, and tenacity of purpose will continue to further the program of maternal and child health and welfare.

CATHARINE MACFARLANE, M.D.

The New York Infirmary hereby makes this citation of Dr. Catharine Macfarlane in recognition of her distinguished achievements in the practice of gynecology, in cancer research, and in medical education. From the time Dr. Macfarlane received her medical degree from Woman's Medical College of Pennsylvania she has never ceased to study, to investigate, and to teach, and has long been a leader in the fields of medical education and of medical practice. Her kindliness

and understanding as well as her superior capabilities as a physician have won the affectionate gratitude of her thousands of patients. Students, interns, nurses, and all who have worked with her have known her great friendliness and received inspiration from their association with her. Dr. Macfarlane was for twenty years professor of gynaecology of Woman's Medical College of Pennsylvania, and chief of obstetrics and gynecology at the Philadelphia General Hospital. She was the first woman admitted to the College of Physicians of Philadelphia, is a Fellow of the American College of Surgeons, and has received many grants and awards for her research work. Her pioneer studies in the early detection of cancer have had enormous educational value for physicians everywhere. As officer of many medical organizations, she has given freely of her time and energy. She has been president of the Obstetrical Society of Philadelphia and of the American Medical Women's Association. She has served as chairman or member of many cancer committees, and has also been active as a member of the board of her own medical school, from which she has received the honorary degree of Doctor of Science. Recognition of the scope of her contributions is indicated by her having been named, in 1949, a Distinguished Daughter of Pennsylvania.

* * *

Dr. Macfarlane, speaking for the recipients of the citations, said:

"My colleagues and I are very grateful for the high honor that has been conferred upon us this afternoon in the presence of this distinguished gathering. We realize that we have received this honor today because, more than one hundred years ago, a young woman had a vision.

"Several days ago, when I received Dr. Brownell's kind invitation to say a few words this afternoon, it occurred to me that the high honor to be conferred on five medical women today would be given not because a white haired lady sitting in an armchair could review a long and useful life. Rather it would be given because, more than one hundred years ago, a fair young woman had a vision.

"Elizabeth Blackwell, in her early twenties, learned from the experience of a dying friend that women physicians were needed. With the zeal of a crusader, she attacked and conquered prejudices that had originated in the Dark Ages. She succeeded in opening one door after another. She blazed a trail for other pioneers. Having opened the doors that made it possible for women to study medicine, she began to build, perhaps not with bricks and mortar but certainly with her spirit. She built this hospital in which we are met today. She built the Medical College of the New York Infirmary for Women. Later, in London, she helped build the Royal Free Hospital for Women and the London College of Medicine for Women. By the time all this was accomplished, she was no longer young. At the turn of the century, she was an old woman and she was tired. To quote her own words, 'What is done is done. I will leave it.'

"Today, in honoring five medical women from three different medical schools, you have honored Elizabeth Blackwell's spiritual descendants. You have honored Martha Eliot, a graduate of the Johns Hopkins Medical School, for her distinguished work in public health. You have honored Edith Potter, a graduate of the University of Minnesota, for her outstanding contribution to the pathology of the diseases of childhood. You have honored Ethel Dunham, a graduate of Johns Hopkins Medical School, for her notable studies of premature infants. You have honored Annie Scott, a graduate of the Woman's Medical College of Pennsylvania, for her noble work as a medical missionary in China. In honoring me, also a graduate of the Woman's Medical College of Pennsylvania, I am inclined to think you are honoring the one who may be the closest to Dr. Blackwell, and that not only in years. Had it not been for the urging of her friend, dying of cancer, the young and impressionable Elizabeth Blackwell might never have thought of studying medicine. Without this personal contact with the dread scourge, cancer, there might never have been a Dr. Elizabeth Blackwell. Then we five physicians would not be here today to receive the honor of an Elizabeth Blackwell Citation, given by you in memory of a young woman who had a vision more than one hundred years ago."

* * *

In 1938, Dr. Catharine Macfarlane, then professor of gynecology at the Woman's Medical College of Pennsylvania, established in Philadelphia, with the assistance of her associates, Dr. Faith S. Fetterman and Dr. Margaret Castex Sturgis, the first cancer research clinic, to determine the value of periodic pelvic examination in detecting early cancer of the uterus or lesions predisposing to cancer. Some 1300 well women volunteered to attend the clinic twice a year for pelvic examination. This year, the fifteenth, concludes the study, and the volunteers have expressed their thanks to Dr. Macfarlane by presenting her with a citation engrossed with more than four hundred names and a gift of $1,300, "to use as you see fit."

Dr. Mary DeWitt Pettit, professor of gynaecology, Woman's Medical College of Pennsylvania, shared in a panel discussion of "Diagnostic Methods Useful in Cancer," as the Cancer Day Program of the Philadelphia County Medical Society. Her subject was "The Vaginal Speculum."

Dr. Gladys Doll has been appointed clinical assistant in the department of gynaecology, Woman's Medical College of Pennsylvania.

Dr. Eunice Stockwell, professor of ophthalmology, Woman's Medical College of Pennsylvania, received the degree of Master of Medical Science from the Graduate School of Medicine, University of Pennsylvania.

Among distinguished guest speakers who visited the Woman's Medical College in April were Dr. Edith L. Potter, associate professor of pathology, University of Chicago, who spoke on "Pathology of the Fetus and Newborn," and Dr. Elise S. L'Esperance, 1951 Lasker Award recipient, who described the Strang Clinic and cancer detection.

The League for Emotionally Disturbed Children has opened a therapeutic play group for seriously disturbed children from three to six years of age for whom no school or other group experience is available. The pilot project will function in the psychiatric division of Kings County Hospital. It is under the supervision of Dr. Katherine F. Woodward, clinical assistant professor of psychiatry at the State University College of Medicine, and associate attending psychiatrist at Kings County Hospital.

Dr. Minnie L. Maffett, former national president of the Federation of Business and Professional Women, has accepted reappointment to the Chinese Nursing Fund Project of the federation.

Dr. Stella Chess of New York has been named chairman of the Committee on War Tensions in Children. This group is concerned over the effects on children of civil defense activities and the atmosphere such measures create. Dr. Chess is associate in psychiatry and assistant psychiatrist at Flower and Fifth Avenue Hospitals, and coordinating psychiatrist at the Northside Center for Child Development.

The auxiliary council of The Association for the Advancement of Psychoanalysis sponsored a symposium at Town Hall, New York, entitled "Human Nature Can Change." One of the speakers was Dr. Karen Horney, dean of the American Institute for Psychoanalysis.

Dr. Margaret M. Wurts, Montclair, New Jersey, on a six months' leave of absence from the New Jersey State Teachers College, will spend the time at the Ryder Memorial Hospital, Humacao, Puerto Rico, under the auspices of the American Missionary Association.

Marcelle Bernard, M.D.

THESE WERE THE FIRST

Dr. Helen A. Boyle, now 80 years of age, was the first woman president of the Royal Medico-Psychological Association of England, and carries on her practice of psychiatry in London and in Brighton, England.

Dr. Ellice Agnes Parmenter was recently appointed to the Canadian Army at a ceremony of the Canadian Army Liason Establishment in London, the first time the Canadian Army has commissioned a female medical officer.

Dr. "James Barry," graduate of the University of Edinburgh, was a woman surgeon, although not until her death in 1865 was the secret of her sex revealed. Dr. Barry was appointed assistant surgeon and in 1837 became Inspector General of the military hospitals of Canada, later to become Inspector General of all British hospitals. The story of this remarkable woman has been written by the late Maude Abbott.

Dr. Ruth A. Parmalee, graduate of the University of Illinois, entered mission work in 1914 in Turkey, and was the first woman physician in the valley of the Euphrates River. She served continuously with the American Women's Hospitals after 1919, and her medical relief work in the Near East has been marked by courage and unselfish service.

Dr. Anita McGee was the first woman "contract surgeon" with the United States Army, and served during the Spanish-American War. This was a position that carried with it no military status, no uniform, nor military privileges such as pensions or insurance.

Dr. Elsie Inglis, founder of the Scottish Women's Hospitals, was the first to conceive the idea of organized service by women doctors on battlefields and behind the lines. In December 1914, the first unit of women sailed for France. Dr. Inglis' bravery, sacrifices, and untimely death are described in several volumes that record services by women physicians during World War I.

Dr. Elizabeth Campbell, graduate of the Medical College of the University of Connecticut (1895), was the first woman elected to the staff of Christ Hospital, Cincinnati (1902). In 1910 she became vice president of the Academy of Medicine in Cincinnati, the first woman to hold such a position, and in 1942 was made an honorary member of the National Hygiene Society.

Elizabeth Bass, M.D.

Letters TO THE EDITOR

"I do appreciate your sending me the JOURNAL. I have been retired for some six years . . . The JOURNAL helps me to keep in touch with medical affairs and to follow the achievements of medical women here and abroad, to be very proud of them, and to be glad that for many years I was an active medical woman . . ."—E.S.B.W.

From a woman lawyer: "I never miss an article in the JOURNAL and read it from cover to cover, every month. I consider it the best professional periodical—and consistently so—that I have ever encountered. The articles dealing with medico-legal problems should be very valuable to all physicians."

From some male colleagues:

"Though I realize that facial expression is by no means an infallible index of intelligence or character, I must write you how favorably impressed I am with the photograph on page 31 of your January issue. I am not given to exuberant expression, but I have no hesitancy in saying that the faces shown in this picture come first in my observation for delineation of character, intelligence, and wholesomeness." . . . M.D. (editor of medical journal).

"I think your JOURNAL one of the best and have enjoyed reading the copies I have received." . . . M.D., Indianapolis, Indiana.

"Your JOURNAL is excellent in every department and way. I place it in my waiting room." . . . M.D., Boston, Mass.

"I find the JOURNAL extremely interesting, useful, and well edited." . . . M.D., New Zealand.

"I appreciate receiving the JOURNAL and would like to become a member, but are males eligible?" . . M.D.

EFFECTS OF ANESTHESIA

REFERENCES

(Concluded from page 212)

[84]Keeton, R. W., and others, Convalescence: study in physiological recovery of nitrogen metabolism and liver function, Ann. Int. Med. **28:** 521-551, March '48.

[85]Tagnon, H. J., Robbins, G. F., and Nichols, M. P., Effect of surgical operations on bromsulfalein-retention test, New England J. Med. **238:** 556-560, April 15, '48.

[86]Pohle, F. J., Anesthesia and liver function, Wisconsin M.J. **47:** 476-479, May '48.

[87]Sims, J. L., and others, Influence of oxygen and carbon dioxide levels during anesthesia upon postsurgical hepatic damage, J. Lab. & Clin. Med. **38:** 388-396, Sept. '51.

[88]Darrow, D. C., and Pratt, E. L., Fluid therapy: relation to tissue composition and expenditure of water and electrolyte, Council on Foods and Nutrition, J.A.M.A. **143:** 365-373, May 27, '50 and 432-439, June 3, '50.

[89]Gazes, P. C., Richardson, J. A., and Cotten, M. deV., Effects of potassium chloride on intestinal motility in human beings and dogs, J. Lab. & Clin. Med. **37:** 902-908, June '51.

[90]Moore, D. C., and others, Use of Dramamine in controlling postoperative vomiting, Reported at the Washington Meetings of the Am. Soc. of Anesthesiologists, Nov. '51.

[91]Knight, R. T., Elevation of body temperature during anesthesia and its control, Anesth. & Analg. **21:** 117-119, March-April '42.

[92]Burstein, C. L., and Mark, L. C., Control of temperature of inspired atmosphere in absorption technic, Anesthesiology **9:** 197, March '48.

[93]Bigler, J. A., and McQuiston, W. O., Body temperatures during anesthesia in infants and children, J.A.M.A. **146:** 551-556, June 9, '51.

[94]Anderson, C. D., Supervised emergence of anesthetized patient, Anesthesiology **12:** 604-610, Sept. '51.

[95]Lowenthal, P. J., and Russell, A. S., Recovery room; life saving and economical, Anesthesiology **12:** 470-476, July '51.

PICTURE CREDITS

Pages 216 and 217—Courtesy of Dr. Golda Fischer.
Page 218—Courtesy of Unations, WHO, New York.

BOOK NOTICES

(Editor's Note:—These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of the JOURNAL.)

DYNAMIC PSYCHIATRY: Basic Principles. Volume One. By Louis S. London, M.D., Diplomate, American Board of Psychiatry and Neurology; member of American Psychiatric Association; Fellow, American Medical Association; Life Member of New York Society for Clinical Psychiatry. Pp. 95. Price $2.00. Corinthian Publications, Inc., New York, 1952.

The first chapter of this book, which is almost half the volume, gives an historical survey of the evolution of psychiatry from earliest human history. It is delightful to read as it gives the highlights of early developments in psychiatry. Unfortunately the developments seem to have ended for the author in 1792. After this date the author states, "The further history of psychiatry is the story of the development of Freudianism, psychoanalysis, and of the various schools of thought from which evolved the psychotherapeutic methods of today." Thus he omits completely many important forerunners of Freud such as Kraft-Ebing, Magnus Hirschfield, Charcot, and Bernheim. We realize that there is not space enough to include everything, but it seems to the reviewer that the many significant advances which permitted Freud to formulate his new approach to mental diseases and eventually led to their more effective treatment, should at least be mentioned.

The second chapter deals briefly with the history and theory of dream interpretation. Other chapters give outlines of the libido concept of various authors.

It is not clear to the reviewer whether this book is written for the profession or for the laity. It lacks the clarity needed for an introductory text and seems too superficial for the specialist. However, this book is intended as the first of a series and is very interesting as an introductory volume. The sparkling style of the author makes it a refreshing and stimulating book.

—Martha Brunner-Orne, M.D.

TEXTBOOK OF REFRACTION. By Edwin Forbes Tait, M.D., Ph.D., Associate Professor of Ophthalmology, Temple University School of Medicine; Attending Surgeon (Ophthalmology), Temple University and Montgomery Hospitals. Pp. 418, 93 figures. Price $8.00. W. B. Saunders Company, Philadelphia and London, 1951.

Such a textbook should prove a valuable aid to students of ophthalmology. The subject material is clearly outlined and well presented, and each step is illustrated adequately by pictures, charts, and diagrams. The author has set forth in an orderly manner the different procedures followed by the refractionist, and has discussed fully various methods used in testing vision, both objective and subjective.

It is more than a textbook of refraction since in it are included chapters on binocular fusion, ocular muscle anomalies, and binocular anomalies at the near point. The last chapter, entitled "A System of Refraction with Interpretation and Correlation of Data," summarizes concisely the procedures of refraction and should prove invaluable to all ophthalmologists.

—Margaret Henry, M.D.

THE GENETICS OF MICRO-ORGANISMS. By D. G. Catcheside, Reader in Plant Cytogenetics, University of Cambridge, Fellow of Trinity College, Cambridge. Pp. 223, 49 tables, 35 figures. Price $4.50. Pitman Publishing Corporation, New York, Toronto, London, 1951.

Here is a concise, critical summary of all recent studies on genetics of microorganisms. Written for biochemists specializing in microbial metabolism, it contains much of interest to all students of cellular behavior. It is clearly written and defines the technical terms used. Many valuable tables and figures compile a wealth of otherwise scattered data. The bibliography is carefully selected. For the general biologist and the student of medicine, it may prove difficult reading because of its specialized content and its extreme compactness.

The major part deals with the genetic analysis of the fungus, Neurospora, which may ultimately modify some of the traditional concepts of genetics. Methods for determining sexual recombination of genes, mutation rates, and the presence of biochemical mutants are described and evaluated. Among the problems reviewed are studies of biochemical mutants leading to better understanding of cellular enzymes and intermediate steps in metabolism; induction vs. selection of mutants with evidence favoring the latter; and mutagenic agents such as ultra-violet light, x-rays, and nitrogen mustard. Yeasts, protozoa, bacteria, and viruses are considered. Evidence of sexual recombination in bacteria and in a bacteriophage is presented. Studies of bacterial mutation relate to practical problems of drug resistance in the use of antibotics. This thought-provoking book shows that studies of microorganisms are valuable tools in increasing knowledge of the cell in relation both to metabolism and to genetics.

—Janet Gunnison

LIVER DISEASE: A Ciba Foundation Symposium. Consulting Editor, Sheila Sherlock, M.D.; Editor for the Ciba Foundation, G. E. W. Wolstenholme, O. B. E., M. B., B. Ch. Pp. 249, 112 illustrations, 35 tables. Price $5.00. The Blakiston Company, Philadelphia, 1951.

Dr. Sheila Sherlock and Dr. G. E. W. Wolstenholme are to be congratulated on assembling this volume of papers and discussions on liver disease presented at the London Ciba Conference in the summer of 1950. The 60 research workers who took part in the international conference presented recent trends in the study of "Aetiology of Chronic Liver Disease," "Hepatic Cirrhosis," "Portal Hypertension," "Ascites," and its treatment. Special sections on the metabolic aspects of liver disease, protein, and pigment metabolism will prove of interest.

The studies on "Viral Hepatitis" were stimulating and of particular interest to those who have the responsibility of a hospital blood bank. The discussions on surgery in "Portal Hypertension" should be of particular interest to those surgeons who have mastered the technical difficulties of the various operations.

A great deal of experimental and research material is presented which at times is very confusing but should be stimulating to those doing research work. Further problems for investigation are suggested as there are still disagreements with the interpretations of some of the present findings. The discussions brought out impressively the complexities of some of the problems, such as ascites.

This volume should appeal to physicians in every field of medicine and to scientific workers.

—Ann P. D. Manton, M.D.

PRACTICAL CLINICAL PSYCHIATRY. By Edward A. Strecker, Litt.D., LL.D., M.D., Professor of Psychiatry, School of Medicine, University of Pennsylvania; Franklin G. Ebaugh, M.D., Professor of Psychiatry, University of Colorado, School of Medicine, and Director, Colorado Psychopathic Hospital; and Jack R. Ewalt, M.D., Professor of Neuro-Psychiatry and Administrator of Hospitals, University of Texas Medical Branch, Galveston. Section on "Psychopathologic Problems of Childhood" by Leo Kanner, M.D., Associate Professor of Psychiatry, Johns Hopkins University School of Medicine. Seventh Edition. Pp. 506, 35 figures, 14 tables. Price $7.00. The Blakiston Company, Philadelphia, New York, Toronto, 1951.

In this new edition of a classic textbook, Dr. Strecker has streamlined the text and added several interesting features. The first chapter, called "Personality Development," comprises only 27 pages, but discusses philosophic and psychologic theory underlying the prominence of psychiatry during the past 20 years. The chapter on "Psychiatric Examination," which has always been of particular interest to medical students, has been rearranged and clarified. The classic psychiatric syndromes are covered simply and completely. There has been an addition of a very useful chapter on "support" psychotherapy, a subject which has apparently never before been covered completely in a classic text book. Chapter 12 concerns itself with "Psychosomatic Medicine," the branch which has resulted in much research in the past few years. Chapter 15, written by Dr. Kanner, outlines the important problems in the approach to child psychiatry.

This book is a good beginning outline for the medical student and for the interested practitioner. It is well written and is not filled with the myriad details characteristic of older textbooks. It points the way to various future developments in the field, and will obviously take its place as a leader in the teaching of psychiatry today.

—B. E. McLaughlin, M.D.

PATHOLOGY OF THE FETUS AND THE NEWBORN. By Edith L. Potter, M.D., Ph.D., Associate Professor of Pathology, Department of Obstetrics and Gynecology, The University of Chicago; Pathologist, The Chicago Lying-in Hospital; Chief Pathologist, the Chicago Department of Health. Pp. 554, 601 figures. Price $19.00. The Year Book Publishers, Inc., Chicago, 1951.

This is indeed a welcome addition to the libraries of pediatricians, obstetricians, and pathologists. Dr. Potter's work is well known to these groups, and her participation in the programs of all of them has made her work familiar. We have long waited for the amassing of her material. In this book the photographs are excellent, illustrating exactly what the author intended. In addition to pathology she includes interesting accounts of the development of the fetus and placenta; statistical studies on abortion; descriptions of the anatomy and embryology of various organs, particularly the lungs; and the study of malformation, tumors, anoxia, and birth trauma. Probably no one has had a greater experience in the pathology of the fetus and newborn than Dr. Potter, and this book is an authoritative reference.

—H. E. Thelander, M.D.

THE PRACTICE OF ENDOCRINOLOGY. Edited by Raymond Greene, M.D., D.M., M.R.C.P. Second Edition. Pp. 352, with 56 plates, 25 figures. Price $12.50. J. B. Lippincott Company, Philadelphia, 1951.

This second edition has achieved the difficult task of informing the general practitioner of the well-founded facts of endocrinology. Brief and concise as the book is, the authors have not neglected to present the basic biologic, physiologic, and chemical research on which both the diagnosis and treatment of endocrine disorders are based.

The authors do not always stress sufficiently the significance of psychosomatic interrelationships in endocrine diseases. Specialists in the field may question some of the conclusions. For example: in the chapter on the treatment of hyperthyroidism the surgical approach is favored over the purely medical regime; whereas many practitioners have found the medical regime, with rare exceptions, highly satisfactory. In the treatment of menstrual disturbances, e.g., anovulatory bleeding of pubescent girls and women near the menopause, also metropathia hemorrhagica, progesterone was found very effective as a therapeutic as well as diagnostic tool. This is usually preferred to the use of androgens or estrogens; but in certain cases of dysmenorrhea estrogen is favored because it supresses ovulation and thus pain effectively.

On the whole the book dispels much of the prevalent misinformation about endocrine diseases and exposes the misuse of the hormone preparations currently flooding the market. Throughout the book a scientific approach is maintained without burdening the reader with an excess of detail or theoretical assumptions as yet incompletely studied. In a good book such as this a more complete bibliography would be valuable even if it made reading a bit more difficult.

—Olga S. Wermer, M.D.

CALLANDER'S SURGICAL ANATOMY. By Barry J. Anson, M.A., Ph.D. (Med. Sc.), Professor of Anatomy, Northwestern University Medical School; and Walter G. Maddock, M.S., M.D., F.A.C.S., Elcock Professor of Surgery, Northwestern University Medical School. Third Edition. Pp. 1074, with 929 illustrations. Price $14.00. W. B. Saunders Company, Philadelphia and London, 1952.

This book is an excellent review of anatomical structure for the student in surgery. The fundamental anatomy of each division of the body is well presented, followed by a section on surgical considerations. The latter is not complete, but as this is not a textbook of surgery, this feature cannot be criticized. The time-tested surgical techniques are outlined briefly but clearly. Many surgical procedures are not described, but again we must note that this is a volume on surgical anatomy, and a valuable book in the surgeon's library.

—D. K. Scheidell, M.D.

ESSENTIALS OF HISTOLOGY. By Margaret M. Hoskins, Ph.D., and Gerrit Bevelander, Ph.D., New York University. Second Edition. Pp. 240, with 135 text illustrations and 2 color plates. Price $4.00. The C. V. Mosby Company, St. Louis, 1952.

This concise, well organized book accomplishes very well what its authors intended that it should. It is worth-while as either a review or beginning text as it presents a clear, simplified, over-all approach to the vast subject of cell structure and function. It is remarkably free of verbosity and extraneous material, which frequently confuse and mislead the student.

The illustrations, organization, and type used have been well thought out and incorporated into an excellent and comprehensive coverage of histology.

—Alice M. Broadhurst, M.D.

Current Publications of Medical Women

Stewart, Alice, and Hughes, J. P. W.: Mass radiography findings in the Northamptonshire boot and shoe industry, 1945-1946. Brit. M. J. 1: 899-906, April 28, 1951.

(From Institute of Social Medicine, Oxford.)

An investigation is described in which mass radiography statistics were used to study tuberculosis morbidity rates in different occupational groups in Northamptonshire during 1945-1946. The findings (already reported elsewhere) were confirmed: that the incidence of newly discovered active disease in 1945-1946 was higher in the boot and shoe factories than in other industries in Northamptonshire; that in the boot and shoe industry this type of case was found as often among men as women, but in other occupations women were chiefly affected; and that the case incidence was higher in large than in small boot and shoe factories, and higher for clickers, lasters, and finishers than for rough-stuff workers. New facts are added with regard to these findings and certain conclusions are drawn with respect to the types of work and the incidence of the disease, and its spread.

Braid, Frances: Hypothyroidism in childhood. Brit. M. J. 1: 1169-1176, May 26, 1951.

(From Birmingham Children's Hospital, Birmingham.)

Observations based on a study of 30 patients, ages 18 months to 20 years, are described and discussed in some detail.

Millican, Edith: Toxemia of pregnancy. I. Etiology. J. Am. M. Women's A., 6: 167-168, May 1951.

(From Department of Obstetrics, Woman's Medical College of Pennsylvania.)

The various theories are given.

Waugh, Elizabeth S.: Toxemia of pregnancy. II. Prevention. J. Am. M. Women's A., 6: 169-171, May 1951.

(From Department of Obstetrics, Woman's Medical College of Pennsylvania.)

During 1948, 82 patients with toxemia were admitted to the Woman's Medical College Hospital. Of these, the majority had had adequate prenatal care. Eclampsia resulted in 2 cases (2.4%). Although prenatal care is essential in the preventive treatment of eclampsia, persistence in efforts to find other factors to help prevent this disease is necessary.

Taylor, Ann Gray: Toxemia of pregnancy. III. Management. J. Am. M. Women's A., 6: 171-172, May 1951.

(From Department of Obstetrics, Woman's Medical College of Pennsylvania.)

From July 1938 to June 1950 in the Obstetrics Department of the Hospital of the Woman's Medical College of Pennsylvania, there were 16 patients who developed eclampsia out of 11,487 deliveries. Two of these patients died, one from shock immediately after Cesarean section, the other, one week postpartum, after spontaneous delivery of a stillborn infant. Of these 16 cases of eclampsia, three developed in the postpartum period. Cesarean section was performed on 8 patients. In two cases local analgesia was used; in four cases, spinal anesthesia; in one case, general anesthesia; and in one case, the anesthetic agent was not recorded. Treatment is aimed at providing a minimum of external stimuli, constant care, oxygen, sedation (morphine sulfate, magnesium sulfate, calcium chloride) dehydration (concentrated glucose) and support in the form of plasma and whole blood. Lumbar puncture may be performed as a late measure. The only real treatment is prevention.

Thomas, Carmen C., and **Hardy, Marjorie K.:** Acne vulgaris; clinical trial of a sulfur-resorcinol cream. J. Am. M. Women's A., 6: 176-178, May 1951.

(From Woman's Medical College of Pennsylvania, and Philadelphia General Hospital.)

Topical treatment is one of the most important phases of management of the condition. A series of 66 cases was treated with sulfur and resorcinol in a special cream-type vehicle. Patients were Caucasian, 12 to 31 years of age and presented lesions of varying grades of severity. The usual general measures were carried out: diet, systematic medication, ultraviolet and roentgen therapy, as indicated. Local therapy consisted of proper hygiene of skin and scalp and application of the medication. Untreated sites and use of other preparations in the same patient served as controls. In 35% there was complete resolution; in 48% marked improvement; in 14% moderate improvement, and in 3% no improvement. All cooperative patients were benefited. One patient showed reaction to the medication.

Greisheimer, Esther M.: Postmenopausal osteoporosis. J. Am. M. Women's A., 6: 183-184, May 1951.

(From Temple University School of Medicine, Philadelphia.)

The effect of hormones are discussed and differential diagnosis is briefly mentioned. The three objects of treatment are to relieve pain, restore structural stability of the bones, and to prevent further deformity of the bodies of vertebrae. It is imperative to treat postmenopausal osteoporosis before there is irreparable damage of the vertebrae through collapse. Perhaps annual roentgenograms of the spine and pelvis after menopause would serve to decrease the incidence of this disabling condition.

Jones, Julia M.: Pulmonary tuberculosis in the pregnant woman. M. Clin. North America, pp. 647-657, May 1951.

(From Department of Medicine, Columbia University College of Physicians and Surgeons and Chest Service, Bellevue Hospital, New York.)

The exact physiologic relationship between tuberculous infection and pregnancy had not been established. There is a clinical impression that the influence is unfavorable but opinions vary. Acknowledging this and analyzing the possible effects of pregnancy, it seems wise to assume such a relationship. The author believes that pregnancy is wisely deferred in the presence of early unstable pulmonary tuberculosis. When it occurs interruption is advocated during the first trimester. Tuberculosis of pelvic viscera, genitourinary tract or bony pelvis and complications are additional indications for termination of pregnancy. When the tuberculous infection has responded well to treatment, is of a more chronic character, or when for various reasons pregnancy cannot be terminated, special provisions are necessary for adequate clinical care. These are listed and discussed.

Kleegman, Sophia J.: Diagnosis and treatment of infertility in women. M. Clin. North America, pp. 817-846, May 1951.

(From Obstetrical and Gynecological Service, Third (New York University) Surgical Division, Bellevue Hospital, and Department of Obstetrics and Gynecology, New York University College of Medicine.)

An organized plan of study of husband and wife is outlined and discussed. Specific treatment is considered in some detail. 18 illustrative cases are reported.

Jackson, Katherine: Psychologic preparation as a method of reducing the emotional trauma of anesthesia in children. Anesthesiology, 12: 293-300, May 1951.

(From Department of Pediatrics and Anesthesia Section, Department of Surgery, Albany Medical College, Albany.)

A method of reducing, by psychologic preparation, the emotional trauma incident to anesthesia is described as well as its application in 30 cases. Practical advantages are: less anesthetic used, quieter inductions, milder excitement stages, lack of physiologic depression from premedication, and quieter operating rooms. The advantage to the child consists in having an otherwise terrifying experience become a cooperative enterprise between himself and the anesthetist. Conscious of the situation with which he is faced, he is able, with the help of a person he can trust, to accept and to deal with his fears. Thus the experience loses some of its traumatic effect and may in some cases be of constructive value to the child.

Krehbiel, Susannah, and Stewart, H. J.: Self-administration of a mercurial diuretic; experience of patients with mercaptomerin (thiomerin) sodium. J.A.M.A. 146: 250-253, May 19, 1951.

(From Department of Medicine, New York Hospital and Cornell University Medical College, New York.)

A total of 1,425 subcutaneous injections of mercaptomerin sodium were self-administered during a five month period by 71 ambulatory patients with cardiac disease. Instructions were well followed. The benefits to the patient and clinic are discussed. The successful experience with this program leads the authors to believe that widespread adoption of the self-injection regimen should be encouraged.

Wernicke, K., and **Riede, Gisela:** Erfahrungen mit Chlorophyll in der Dermatologie. Med. Klin. 46: 597-598, May 18, 1951.

(From Hautklinik Bad Salzuflen.)

In the 120 stationary cases treated over a period of 14

months with chlorophyll preparations, these showed distinct superiority over sulfonamid and penicillin salves in most cases. Surprisingly good results were attained when all classical procedures had failed. The best success was attained in the treatment of ulcera cruris (varicose and of other genesis), ecthyma, burns of 2nd and 3rd degree including x-ray ulcers, decubitus, as well as secondarily infected wounds. Best tolerated were aqueous cholorphyll solution and chlorophyll salve. Early granulation set in first at the base of the wound and soon after at the margin of the wound. This formed firm granulation tissue with good blood circulation. This explains the very slight inclination to relapse.

Berger, M. M., Hindman, Sarah M., and Fettig, L. E.: Care of premature infants. St. Luke's Hosp. Bull. **6:** 14-20, May 1951.

The method of care is outlined.

Carpenter, A-M., Polonsky, B., and **Menten, Maud L.:** Histochemical distribution of glycogen: 1. evaluation of methods. A.M.A. Arch. Path. **51:** 480-485, May 1951.

(From Department of Pathology, University of Pittsburgh, and Children's Hospital of Pittsburgh.)

The results are too variable to ascribe specificity to the staining technics used for histochemical localization of glycogen. The reasons for the variability are discussed.

Menten, Maud L., and **Carpenter, Anna-Mary:** Histochemical distribution of glycogen; 2. in kidneys of patients with different pathologic conditions, especially those with lipoid nephrosis. A.M.A. Arch. Path. **51:** 486-493, May 1951.

The histochemical distribution of glycogen in the kidneys of patients who died with diabetes, von Gierke's disease, pyelonephritis, nephritis and lipoid nephrosis increased with advance of degenerative change. In lipoid nephrosis the glycogen was in intimate association with the excreted albumin and globulin.

Menten, Maud L., and **Carpenter, Anna-Mary:** Histochemical distribution of glycogen: 3. in kidneys of leukemic patients. A.M.A. Arch. Path. **51:** 494-497, May 1951.

Glycogen was demonstrated histochemically in the proximal convulted tubule and the ascending limb of the loop of Henle in kidneys of patients who died of leukemia. The reaction was more marked in the kidneys in myelogenous leukemia than in those in lymphatic leukemia.

Apgar, Virginia, and Papper, E. M.: Pheochromocytoma; anesthetic management during surgical treatment. A.M.A. Arch. Surg. **62:** 634-646, May 1951.

(From Department of Surgery (Anesthesiology), College of Physicians, Columbia University, and Anesthesia Service, Presbyterian Hospital.)

The 91 reported cases in which surgical treatment has been given for pheochromocytoma have been surveyed. The total mortality rate is 24%. The clinical picture is briefly described with summary of the important diagnostic tests. Suggestions are given for rational anesthetic management, with a commentary on the supportive measures required during anesthesia and operation. The dangers of performing unrelated operative procedures on patients with pheochromocytoma are pointed out. These operations bear a mortality rate of approximately 50%. Two previously unreported cases are presented.

Davis, H. A., Parlante, V. J., and **Hallsted, Alverta M:** Coronary thrombosis and insufficiency resulting from shock; a clinical and pathologic study. A.M.A. Arch. Surg. **62:** 698-704, May 1951.

(From Los Angeles County General Hospital and Department of Surgery, College of Medical Evangelists, Los Angeles Division.)

A series of 18 proved cases of coronary thrombosis or insufficiency following shock of varied origin is presented. The practical conclusion to be drawn from the study is that patients in whom arteriosclerosis of the coronary arteries is probably present, i.e. those 50 years or older, are particularly susceptible to coronary thrombosis and insufficiency as a result of shock. Any fall in blood pressure should be prevented and if it does occur, it should be treated as soon as possible. It is particularly important that the period of shock should not be permitted to exceed more than a few minutes.

Hall, Mary N.: A study on the effects of priscoline on patients with psychosis due to cerebral arteriosclerosis. Connecticut State M. J. **15:** 385-389, May 1951.

(From Clinical Services and Department of Research and Training, Connecticut State Hospital, Middletown.)

There were no marked demonstrable changes in the symptoms of these patients after one month on a dose of priscoline 25 mgm. q.i.d., or after another month on a dose of 50 mgm. q.i.d. An unexpected observation was the salutary action of priscoline in reducing the moderately elevated nonprotein nitrogen values in these patients. These results are not conclusive, but are suggestive and interesting. The side effects of the drug were minor and there was no evidence of any toxicity.

Bona-de Santos, Sofia, Dungo, F., and Aoanan, A.: Experiences with dry BCG vaccine in the Philippines. Dis. Chest, **19:** 544-565, May 1951.

(From Section of Tuberculosis Immunization and Prophylaxis, National Chest Center, Department of Health, Philippines.)

With dry BCG 14,898 vaccinations were performed from February 1948 to December 1949, using the multipuncture technique. Of 8,931 performed by the National Chest Center personnel, 3,792 or 42.4% returned at least once for postvaccination tuberculin testing. The results are summarized, evaluated and discussed.

Potter, Mabel F.: Cause, prevention and treatment of "failed" forceps. M. Press, **225:** 423-425, May 2, 1951.

(From Bristol Royal Hospital.)

General discussion.

Cambel, Perihan: Fluorescence studies on methylcholanthrene in the monkey skin. Quar.J.Florida Acad. Sc., **14:** 39-42, March 1951.

The existence in monkeys of a sebaceous gland-epidermis barrier to the carcinogenic action of 20-methylcholanthrene (MC), similar to that previously observed in rats, is suggested by the author as a result of experimental work on Rhesus and Java monkeys. The significance of this barrier in monkeys as well as in rats has not been determined.

Sitchevska, Olga, and Payne, B. F.: Pearl cysts of the Iris. Am.J.Ophth., **34:** 833-840, June 1951.

A case of a pearl cyst of the iris is reported. This followed a perforating injury of an eye in which two eyelashes were carried into the anterior chamber. The importance of removal of these cysts while they are small and before complications set in is stressed.

Despert, J. Louise: Some considerations relating to the genesis of autistic behavior in children. Am.J.Orthopsychiat., **21:** 335-350, April 1951.

(From Cornell University Medical College.)

A case is described and discussed in an effort to clarify the relation of maternal attitudes to the development of autistic behavior in young children.

Sperling, Melitta: The neurotic child and his mother: a psychoanalytic study. Am.J.Orthopsychiat. **21:** 351-364, April 1951.

(From New York State College of Medicine.)

The author studied neurotic children and their mothers in the process of concomitant analyses. Some of these observations with case material are reported.

Craig, W. S., Kitching, Gladys A., Davies, I. G., and Brockington, C. F.: Continuing nursing care for the small infant discharged from hospital. Brit.M.J. **1:** 1234-1236, June 2, 1951.

(From Department of Paediatrics and Child Health, University of Leeds.)

Up to the present time 225 babies have been provided with nursing care around and in the city of Leeds. The arrangements, selection of babies, advantages, and other factors are considered.

Walker, Pearl A.: Cholelithiasis in a boy of 10 presenting as acute appendicitis. Brit.M.J. **1:** 1242, June 2, 1951.

(From St. Richard's Hospital, Chichester.)

Case report.

Grossfield, Erika: Acute porphyria with unusual features. Brit.M.J. **1:** 1240-1241, June 2, 1951.

(From Southern General Hospital, Glasgow.)

A case with unusual features is reported.

Waterhouse, Christine, Fenninger, L. D., and Keutmann, E. H.: Nitrogen exchange and caloric expenditure in patients with malignant neoplasms. Cancer, **4:** 500-514, May 1951.

(From Division of Cancer Research, Departments of Medicine and Surgery, University of Rochester School

of Medicine and Dentistry, and Medical Clinic, Strong Memorial and Rochester Municipal Hospitals, Rochester, N.Y.)

Human beings in whom a malignant neoplasm is growing progressively may store nitrogen readily while the body is wasting. The presence of a rapidly growing neoplasm appears to increase the energy expenditure of its host. Eight cases are described in detail, to illustrate the findings on which these conclusions are drawn.

Lewison, E. F., Levi, J. E., Jones, Georgeanna S., Jones, H. W., Jr., and Silberstein, H. E.: Tracer studies of radioactive sodium estrone sulfate (S^{35}) in cases of advanced breast cancer. Cancer, **4:** 537-548, May 1951.

(From Departments of Surgery and Gynecology, Johns Hopkins Hospital, and Departments of Surgery and Medicine, Sinai Hospital, Baltimore.)

Seven patients were studied. When tracer amounts of sodium estrone sulfate labeled with S^{35} were administered to patients with advanced breast cancer, the concentration of radioactivity in the tumor tissue was notably higher than could be accounted for by random distribution throughout the body.

Burchenal, J. H., Karnofsky, D. A., Kingsley-Pillers, Elizabeth M., and others: The effects of the folic acid antagonists and 2, 6-diaminopurine on neoplastic disease with special reference to acute leukemia. Cancer, **4:** 549-569, May 1951.

(From Chemotherapy, Medical, and Pediatric Services, Memorial Center for Cancer and Allied Diseases, New York.)

The results of treatment of 162 patients, with neoplastic disease, from February 1948 to November 1949, with antimetabolites, are considered.

Seligman, A. M., and Ashbel, Rivka: Histochemical demonstration of latent active carbonyl groups in normal and neoplastic nervous tissue. Cancer, **4:** 579-596, May 1951.

(From Yamins Laboratory for Surgical Research, Beth Israel Hospital, and Department of Surgery, Harvard Medical School, Boston.)

A new method for the histochemical demonstration of active carbonyl groups of lipoid and nonlipoid material was used in the study of normal nervous tissue, degenerating nerve, tumors of peripheral nerve, brain tumors, cardiac muscle. The results are summarized and discussed.

Lavery, F. S., Werner, L. E., O'Donoghue, D., Guinan, Philomena M., and Macdougald, J.: Use of cortisone in diseases of the eye. Brit.M.J. **1:** 1285-1289, June 9, 1951.

Cortisone was used in the treatment of a variety of eye diseases (143 cases) mostly by subconjunctival injection or in the form of drops. Interstitial keratitis was particularly benefited, and iridocyclcitis also improved rapidly in most cases. Treatment of two cases of sympathetic ophthalmia with systemic cortisone was successful. It is concluded that cortisone is very valuable in the control of allergic reactions in the eye, but has no effect on any underlying disease which may be the basic condition.

van Went, Johanna: Diseases of the spine treated with ultrasonic waves. Brit.J.Phys.Med. **14:** 121-123, June 1951.

Three cases which responded to ultrasonic therapy, are described.

Kempe, Elisabeth: Hyperthyreose-Euthyreose—Hypothyreose. Deutsche med.Wchnschr. **76:** 637-639, May 11, 1951.

The concept of central regulation of the level of the thyroid gland hormone is introduced and applied to various functional disturbances of the thyroid gland and the therapy of these.

Vaubel, Hildegard: Die physiologische und pathologische Spaltung der Persönlichkeit unter Berücksichtigung hirnelektrischer Untersuchungsergebnisse. Hippokrates, **22:** 236-238, 1951.

General discussion.

Snelling, Margaret, and Craig, Mary: Reactions to radiotherapy treatment. Nursing Times, **47:** 560-562, 569, June 9, 1951. [To be continued]

(From Meyerstein Institute of Radiotherapy, The Middlesex Hospital.)

Local effects, skin reactions, reactions of mouth and pharynx and throat after treatment of the cervix are described. The importance of routine observation is emphasized. The general reactions are also described.

Dekker-Jonker, A., Huibregtse-Meyerink, H. G., and Hartog, H.A.P.: [Purulent pericarditis treated conservatively with penicillin.] Maandschr. f. Kindergeneesk. **19:** 112-118, June 1951.

(From Kinderafdeling van het Diaconessenhius te Haarlem.)

A two-year-old boy with acute purulent pericarditic due to staphylococcus aureus probably following an impetigo, was treated by repeated aspiration of the purulent exudate and administration of penicillin into the pericardial cavity and intramuscularly. The child recovered completely and was in excellent condition a year later showing no signs of constructive pericarditis.

Spitz, Sophie: Cutaneous tumors of childhood; disparity between clinical behavior and histologic appearance. J.Am.M.Women's A. **6:** 209-218, June 1951.

(From New York Infirmary and Memorial Center for Cancer and Allied Diseases, New York.)

The disparity between the histologic appearance and subsequent clinical course in certain cutaneous tumors of childhood is pointed out. The clinical course of the histiocytosis cannot be determined by the histologic appearance of the cutaneous lesions. The common benign nevus of childhood may, in the hands of those unfamiliar with the childhood features of this lesion, be frequently mistaken for malignant melanoma. "Juvenile melanomas," histologically similar to fatal adult melanomas, do occur, but do not have the serious clinical implications they have in adult life. Common lesions such as hemangiomas are generally better treated by methods other than radiation. Since there may be confusion clinically concerning the exact nature of certain cutaneous nodules, biopsy and histologic diagnosis are essential before the institution of therapy.

Constable, Kate: Multiple sclerosis. J.Am.M.Women's A. **6:** 220-224, June 1951.

(From New York Infirmary, and Columbia University College of Physicians and Surgeons, New York.)

General discussion of clinical symptoms, laboratory findings, and methods of therapy with illustrative cases mentioned. The attitude that "nothing can be done" should be studiously avoided by both patient and doctor.

Wittner, Asta J.: Diagnosis of uterine abnormalities; value of hysterosalpingograms. J.Am.M.Women's A. **6:** 225-227, June 1951.

(From Department of Kate Depew Strang Cancer Division; New York Infirmary; and Strang Clinic, Memorial Hospital, New York.)

Ten cases are described. As an aid to the diagnosis of abnormalities of the pelvic organs and as a guide in determining future treatment and the probable outcome of sterility problems, hysterosalpingograms are invaluable.

Coultas, Elizabeth, and Ferguson, Shirley: Erythroblastosis; experience at the New York Infirmary during 1949. J.Am.M.Women's A. **6:** 228-230, June 1951.

(From New York Infirmary.)

In a survey of 1,142 deliveries during 1949 the incidence of Rh negative women was found to be 4.2%. Eleven patients delivered babies with erythroblastosis, nine caused by sensitization to the Rh factor, and two caused by sensitization to the ABO factor. The eleven cases are described, with treatment given at the New York Infirmary.

Fliegel, Hilda C., and Lief, Nina: The adolescent clinic. J.Am.M.Women's A. **6:** 231-232, June 1951.

(From New York Infirmary.)

A special clinic for adolescent girls, established at the New York Infirmary in 1940, is described. The reasons for such a clinic and the techniques employed in examination and treatment are discussed.

Sitchevska, Olga: Perforating injury of the eye; implantation of cilia in iris followed by formation of pearl cyst. J.Am.M.Women's A. **6:** 233-234, June 1951.
(From New York Eye and Ear Infirmary.)
A case with unusual features is reported.

Sloan, Beatrice S., and Ross, Lucile: Meningococcemia with meningitis; report of case in a ten-day-old infant. J.Am.M.Women's A. **6:** 234-236, June 1951.
(From New York Infirmary.)
A case in a 10-day-old infant who survived is described. The infant subsequently developed hydrocephalus, which was felt to be due to a congenital anomaly of the central nervous system, rather than to be a sequela of meningitis.

Knopf, Ann: Rickettsialpox; report of a case. J.Am.M. Women's A. **6:** 237-238, June 1951.
(From New York Infirmary.)
A case of serologically confirmed rickettsialpox is reported, in which the diagnosis was temporarily masked by an infected scratch lesion of the neck.

Bogatko, Frances H.: Cyst of the pericardium. J.Am. M.Women's A. **6:** 238-239, June 1951.
(From New York Infirmary.)
Exploratory thoracotomy was done on an obese woman with preoperative diagnosis of intra-thoracic tumor. A pericardial cyst, measuring 7.5 by 4.5 by 1 cm. was found. The cyst was composed of fat and a serous-like glistening greyish membrane and contained yellowish fluid. Convalescence was uneventful.

Andersen, Leonora, and Kraff, Sonia: Bromide poisoning; report of two cases. J.Am.M.Women's A. **6:** 240-241, June 1951.
(From New York Infirmary.)
Two cases are reported. Authors emphasize that it is within the power of the medical and pharmaceutical professions to prevent bromide intoxication. Every effort should be made to make the entire medical profession aware of the dangers of this drug and of the possibility of bromide poisoning in obscure cases of long standing anxiety, depression, and malnutrition.

Lippman, R. W., Ureen, H. J., and Oliver, Jean: Mechanism of proteinuria. IV. Effect of renin on hemoglobin excretion. J.Exper.Med. **93:** 605-614, June 1951.
(From Institute for Medical Research, Cedars of Lebanon Hospital, Los Angeles; and Hoagland Laboratory, Department of Pathology, College of Medicine, State University Medical Center, New York.)
Administration of renin to the rat causes an increase in the glomerular permeability to hemoglobin and a decrease in tubular absorption of this substance as measured by functional methods. Morphologic examination in the rat and in the rabbit reveals an increased concentration of hemoglobin in the tubular lumina, confirmatory evidence of increased permeability. However, there is no significant effect upon the formation of hemoglobin droplets within the renal cells. By analogy with the events observed in neutral red "secretion," it is suggested that hemoglobin is absorbed by both a "direct" and an "indirect" mechanism and that renin administration affects or depresses the "direct" mechanism only.

Fischer, M. A., Steinman, P. A., Carpenter, A. M., and Menten, Maud L.: Qualitative and quantitative changes in the plasma proteins of lipoid nephrosis demonstrated by electrophoresis. J.Lab.& Clin.Med. **37:** 894-901, June 1951.
(From Departments of Physiological Chemistry and Pathology, University of Pittsburgh, School of Medicine, and Pathological Laboratories, Children's Hospital of Pittsburgh.)
In this study it was shown that the beta globulin area of nephrotic plasma is composed of two distinct peaks. The mobility of the slower peak is increased by lengthening the time of storage and dialysis. As a result, separation of the beta peaks may not be observed if the time of preparation for electrophoresis is prolonged. The average of the ascending and descending mobilities of the albumin, alpha globulin, fibrinogen, and gamma globulin fractions of normal and nephrotic plasma are in good agreement. The averages for the alpha, beta, and beta globulin components show slight differences. The albumin fractions of normal serum and of nephrotic plasma and urine are alike in their ability to interact with caprylate anion.

Cronk, G. A., and Naumann, Dorothy E.: Zirconium treatment in ivy poisoning: preliminary investigation. J.Lab.& Clin.Med. **37:** 909-913, June 1951.
(From Student Health Service, Syracuse University.)
In 39 of 47 cases, application of zirconium hydrate to R.toxicodendron dermatitis appeared to alter and shorten the duration of the dermatitis. In a limited control study, early application of zirconium hydrate apparently was able to prevent the development of R.toxicodendron dermatitis. None of the 49 cases in which zirconium hydrate was applied topically gave evidence of topical or systematic toxicity.

Siegel, M., Greenberg, M., and Magee, M. Catherine: Tonsillectomy and poliomyelitis. I & II. J.Pediat. **38:** 537-548; 548-558, May 1951.
(From Bureau of Preventable Diseases, New York City Department of Health.)
A method was presented for measuring the relation of tonsillectomy to the incidence of poliomyelitis by age group, month of onset, month of operation, and time interval between operation and onset. The study was limited to 53,007 operations performed in the hospitals of New York City in 1949 when the city experienced its third largest epidemic of poliomyelitis. From data obtained during an epidemic year, it appears that tonsillectomy predisposes to the development of clinical symptoms of poliomyelitis. In study II, which was concerned with the incidence of bulbar paralysis, the data presented support the view that cases of poliomyelitis occurring shortly after tonsillectomy are predisposed to bulbar paralysis. Under conditions prevailing in New York City from 1944 to 1949 with respect to poliomyelitis, the most desirable months for elective operations seem to be the winter months which are farthest removed from the poliomyelitis season.

Price, W. C., and Binns, Veronica B.: A treatment program for chronic childhood sinobronchitis. J.Pediat. **38:** 597-601, May 1951.
(From Department of Pediatrics, University of Pittsburgh; and Children's Hospital, Pittsburgh.)
In developing a program for treatment of chronic sinobronchial infection, preliminary studies of 54 pediatric patients showed a most satisfactory clinical response to parenteral and intranasal penicillin when administered in conjunction with paredrine-penicillin nose drops and antihistaminic medication.

Mintzer, Ida J., and Eliassow, A.: Topical treatment of tinea capitis. New York State J.Med. **51:** 1310-1312, May 15, 1951.
(From Department of Dermatology and Syphilology, Queens General Hospital.)
The recent literature is briefly reviewed, particularly regarding the local conditions that prevailed in the various epidemics and their treatment. Results of treatment with decupryl are reported. The results seem to compare favorably with those reported by other investigators.

Jacobson, Belle E.: Trichinosis with unusual symptomatology. New York State J.Med. **51:** 1527-1529, June 15, 1951.
(From Medical Service of New Rochelle Hospital, New Rochelle, New York.)
The three cases reported showed the following unusual features: absence of periorbital or facial edema and of muscle pains; late appearance of eosinophilia; bilateral pulmonary consolidation, plus effusion in one case; marked albuminuria; marked edema of lower extremities and persistent abdominal pain and rigidity in the lower quadrant in case one.

Postoloff, A. V., Nichols, D. H., Hellriegel, C., and Fronczak, Eugenia: Primary ovarian pregnancy. New York State J.Med. **51:** 1533-1534, June 15, 1951.
(From Millard Fillmore Hospital, Buffalo.)
A case is presented fulfilling Spiegelberg's criteria and with implantation occurring in the site of a corpus luteum.

Keaty, Corinne, Jones, Phyllis E., and Lamb, J. H.: Progesterone therapy in dermatoses of pregnancy (herpes gestationis). A.M.A. Arch.Dermat.& Syph. **63:** 675-686, June 1951.
Ten patients with pruritic polymorphic eruptions during pregnancy were investigated. The onset of the disease had occurred during the first trimester of pregnancy in two instances, during late pregnancy in seven, and 24 hours postpartum in one. Progesterone (proluton) 25 to 50 mg.

daily was administered with resultant remission of the skin lesions in all 10 patients. All 10 pregnancies terminated in living, normal infants. There was one instance of premature delivery at eight months with fetal survival.

Goldberg, L. C., and Dexter, Helen L. T.: Treatment of chronic cutaneous problems with calciferol. A.M.A. Arch.Dermat.& Syph. **63:** 729-739, June 1951.

(From Department of Dermatology and Syphilology, University of Cincinnati College of Medicine.)

A 15 months' investigative study of the effects of high potency calciferol on several chronic cutaneous problems was made. The drug can be taken safely by all age groups for relatively long periods provided the daily dose is not excessive. The proper dose can be determined only by individual reactions. The signs and symptoms of toxicity to calciferol were reviewed. Only one patient manifested such toxicity in this study. The favorable results in atopic dermatitis appear somewhat impressive.

Forbes, Anne: Minimum observations necessary to advance knowledge of the action of ACTH and cortisone. A.M.A. Arch.Indust.Hyg. **3:** 622-624, June 1951.

A mechanism is suggested for increasing knowledge concerning the many actions of ACTH. Offsetting some of these actions, such as the diabetes, the potassium depletion, and the loss of protoplasm may benefit the patient.

Berlin, N. I., Rowles, D. F., Hyde, Grace M., and others: Blood volume in pulmonary tuberculosis. A.M.A. Arch.Int.Med. **88:** 17-19, July 1951.

(From Donner Laboratory of Medical Physics, University of California; and Thoracic Surgery Service and Pathology Laboratory, Highland-Alameda County Hospital, Oakland.)

Blood volume, determined in 26 patients with pulmonary tuberculosis, was found to be low on the average. Two patients showed an elevated blood volume and an elevated total red cell volume; in one there was an elevated plasma volume but both showed normal hematocrit readings. In both these patients the pulmonary disease was such that secondary polycythemia could explain this phenomenon. It is evident that the total red cell volume and the total blood volume cannot be predicted on the basis of the hematocrit (packed cell volume), red blood cell count or hemoglobin determination in pulmonary tuberculosis, as well as in other diseases.

Enroth, Christina: Epibulbäres Lymphom der Conjunctiva. Acta ophth. **29:** 143-147, 1951.

A case is reported of a benign epibulbar lymphoma without blood changes. The period of observation is still too short to tell whether this is really a rare case of benign epibulbar lymphoma. The later course, repeated blood studies, and eventual sternal puncture will show this.

Vesterdal, Elise: ACTH in the treatment of sympathetic ophthalmia. Acta. ophth. **29:** 239-254, 1951.

(From Eye Department, University Hospital, Copenhagen.)

The results of the experimental use of adrenocorticotropic hormone in the treatment of six patients with sympathetic ophthalmia are reported. All showed rapid initial improvement. Methods of treatment are discussed, and the results of laboratory studies as a guide to therapy and for the protection of the patient are presented. The rationale for the use of ACTH in ocular inflammatory disease is discussed on physiologic grounds and on the basis of present understanding of the etiology of these ocular diseases.

Bayer, Leona M., and Koets, P.: Relation of 17-ketosteroid excretion to the completeness of the virilizing syndrome. Am.J.M.Sc. **222:** 13-17, July 1951.

(From Departments of Medicine, Obstetrics, and Gynecology, Stanford University School of Medicine, San Francisco.)

The 17-ketosteroid excretion was measured in 32 patients who presented one or more of the following complaints: obesity, leanness, hirsutism, menstrual disturbance. Ages ranged from 14 to 49 years. In women and girls who presented signs of virilization, there was a tendency for the level of 17-ketosteroid excretion to rise with the completeness of the virilizing syndrome. The complete syndrome is considered as comprising hirsutism, masculinization of body form, and amenorrhea.

Weyl, Ruth: Tracheobronchial aspiration as a bedside procedure: indications and limitations. Am.J.M.Sc. **222:** 66-72, July 1951.

(From Department of Anesthesiology, Mount Sinai Hospital, Chicago; and Department of Surgery, Chicago Medical School.)

Endotracheal aspiration is often a life-saving procedure. It should be done with skill and care and should not be made a routine procedure and left to the intern or nurse. In unskilled hands, this procedure may be followed by several complications. Nine cases are presented and discussed. Indications, precautions, and limitations are stressed.

Salk, J. E., Laurent, A. M., and Bailey, Mary Lynch: Direction of research on vaccination against influenza—new studies with immunologic adjuvants. Am.J. Pub.Health, **41:** 669-677, June 1951.

The subject is reviewed from the perspective of present status and future prospects of influenza immunization. A hopeful note is introduced with the new data. Field trials are in progress to test under natural conditions the protective effect of any new vaccine preparations that appear safe and more effective. Additional work is necessary with adjuvants before the most effective combination of virus and adjuvant will be devised for testing on a wider scale.

Getting, V. A. and Ryder, Claire F.: Multiphasic health examinations; experience at Boston, Mass. Am.J.Pub.Health, **41:** 643-644, June 1951.

(From Massachusetts Department of Public Health, Boston.)

The results of screening 2620 persons from Dec. 1, 1949 to June 30, 1950 are summarized. The authors conclude that a mass screening procedure which includes a limited physical examination and a detailed history is more effective than one employing only screening tests. The history picked up approximately two-thirds of the defects susceptible of discovery by physical examination. Final evaluation must await thorough follow-up of both positive and negative findings.

Rosenak, B. D., and Van Vactor, Helen D.: Extramucosal intramural enteric cyst of the esophagus; a case report. Am.J.Roentgenol. **66:** 81-86, July 1951.

A case, treated surgically, is reported. This condition is a rare component of the small group of benign esophageal tumors. Diagnosis and treatment of extramucosal tumors are discussed and the embryology of esophageal duplications is reviewed.

Marshak, R. H., Lifsay, Joan, and Brahms, S.: Gastroduodenal intussusception. Am.J.Roentgenol. **66:** 87-89, July 1951.

(From Department of Roentgenology, Mount Sinai Hospital, New York.)

A case is presented in which review of the roentgenograms revealed the typical findings present in such lesions.

Roberts, Ella: The treatment of obesity with an anorexigenic drug. Ann.Int.Med. **34:** 1324-1330, June 1951.

(From Department of Medicine, Woman's Hospital, Philadelphia.)

Sixty-four obese patients who had been unable to lose weight despite at least six months' dietary trial, were treated with dexamyl (a combination of dexedrine and amytal) for appetite control. Within three months 59 had reduced their weight considerably; 14 to normal and 28 within 19% of normal weight. Ten diabetics included in the study all lost weight, and those on insulin were able to reduce the dosage, sometimes by more than 50%. The seven hypertensives treated with dexamyl lost an average of 25 pounds; in all cases but one in which there was no change, the blood pressure was reduced.

Bogin, M., and Edgar, Katherine J.: Statistical study of the premature infant. Connecticut State M.J. **15:** 569-572, July 1951.

(From Department of Pediatrics, Bridgeport Hospital.)

There was a total incidence of 7% prematurity in the newborn service at Bridgeport Hospital for the years 1947, 1948, and 1949. The total number of premature infants studied was 518. These were infants weighing less than 2270 gm. The nonwhite portion comprised about 10% or 56. The incidence of prematurity is about double in the nonwhite but the difference in survival rate is not as striking. The greatest number of deaths occur in the first 24 hours of life. Further studies of factors influencing survival in the first 24 hours may enable pediatricians to lower the fatality rates.

Scientific News Notes

HOLLAND-RANTOS COMPANY, INC., reports the effectiveness of Nylmerate Solution Concentrate® for adjustment of pH and control of pathogenic organisms in vaginal therapy. They state that this solution "within a short time effectively returns abnormal vaginal biology to healthy condition and controls vaginal acidity in restoring Doderlein bacilli."

* * *

WINTHROP-STEARNS, INC., announces, as a companion product to Theominal®, the vasodilator antispasmodic drug, a new preparation called Theominal® M, designed to produce less sedation. "Containing less than half as much Luminal® as the original product, Theominal® M is especially suitable in the treatment of hypertension cases where minimal sedation is desired."

* * *

SCHERING CORPORATION offers a new injection method employing the antihistamine Chlor-Trimeton® with either penicillin or pollen extracts used in allergy protection to avoid painful and serious side effects of hay fever "shots." "The new medical therapy consists of mixing in the physician's syringe the antihistamine Chlor-Trimeton® Injection with either pencillin or the pollen extracts used in allergy protection." It is said that with this method larger doses of antigen can be used with a minimum of side actions, and with fewer injections patients can still receive a sufficient amount of antigen to stimulate antibody formation and thus confer immunity to hay fever, vasomotor rhinitis, and asthma.

DESITIN OINTMENT—In the care of baby's skin Desitin Ointment (a cod liver oil unguent) has proved of great value; tests on 1295 infants (divided into approximately two even groups) prove that dermatoses can be cleared up within a few days. "Extensive erythematous and papular involvement of the lower abdomen occurred in 25 of the control babies against 9 in the Desitin Ointment group. Mineral oil aggravated the condition, whereas the cod liver oil unguent cleared up the rash within 4 to 7 days." (Heimer, C. B., Grayzel, H. G., Kramer, B., Archives of Pediatrics 68: 382, 1951.)

* * *

ELI LILLY & COMPANY directed immediate replacement of Lilly pharmaceuticals and biologicals in all hospitals and pharmacies as a contribution to the rehabilitation effort in flooded areas of the Missouri and Mississippi River Valleys recently.

* * *

CHAS. PFIZER & COMPANY, INC., has announced the expansion of its summer medical student program to include undergraduates from selected pharmacy, dental, and veterinary schools all over the country. With the exception of medical schools whose sophomore and junior students are not granted summer vacations, every accredited medical school in the country will be represented by two students. Students will work in teams in discussing antibiotic therapy with doctors, dentists, and veterinarians.

EDITORIAL FORECAST
July 1952

The July number of the JOURNAL will be the annual World Health Organization number, commemorating the formation of this important agency of the United Nations. Articles describing past accomplishments and future plans for the improvement of health of all peoples of the world have been written especially for the JOURNAL by staff members of WHO.

"Eradication of Malaria," by *E. J. Pampana, M.D., D.T.M.&H., Chief of the Malaria Section, WHO.*

"Maternal and Child Health Programme," by *Louis Verhoestraete, M.D., Chief of the Maternal and Child Health Section, WHO.*

"Experiences in Mass Treponemal-Disease Control Campaigns, Preliminary Report," by *Thorstein Guthe, M.D., M.P.H. and Frank W. Reynolds, M.D., M.P.H., Medical Officers of the Veneral Disease and Treponematosis Section, WHO.*

"International Problems in Tuberculosis Control," by *J. B. McDougall, C.B.E., M.D., F.R.C.P. (Ed). F.R.S.E., formerly Tuberculosis Specialist for UNRRA in Greece.*

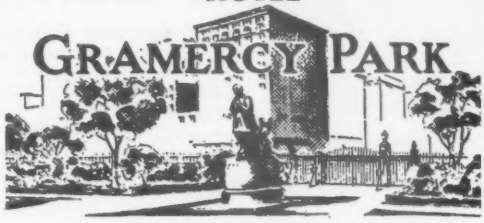
There will be an editorial on World Health Organization by MARTHA M. ELIOT, M.D., and a summary of the Director-General's Report to the Fifth World Health Assembly prepared for the JOURNAL by WHO headquarters, United Nations, New York.

Noteworthy in New York

You'll enjoy a stay at this homelike hotel! Fronting on the city's only private park, close to the Empire State Building, Radio City, T.V. Studios, Art Galleries and Theatres.

SINGLE FROM $5 DOUBLE FROM $7
SUITES FROM $10
Write for Booklet A.

HOTEL
GRAMERCY PARK



CHARLES W. SCHWEFEL, Owner-Manager
Lexington Ave. at 21st Street, New York 10
GRamercy 5-4320

ASSISTANT EDITOR NEEDED

The Editor of the JOURNAL would like to hear from members in the New York area who are interested in editing the scientific articles and checking their publication. Association with a medical center or teaching hospital desirable. Please reply to the Editor, Suite 210, 2 Lexington Avenue, New York 10, N.Y.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, INC.

APPLICATION FOR MEMBERSHIP

Name .....Date .....
(Please print as you wish it to appear in the Directory)

Address .....

.....

Medical School .....Year of Graduation .....

Licensed in County .....State .....

Specialty .....Year of Certification .....

Date and Place of Birth .....

Medical Society Affiliations .....

.....

Hospital and Faculty Appointments .....

.....

.....

Public Health, Government or Industrial Appointments .....

.....

951

Continued on following page

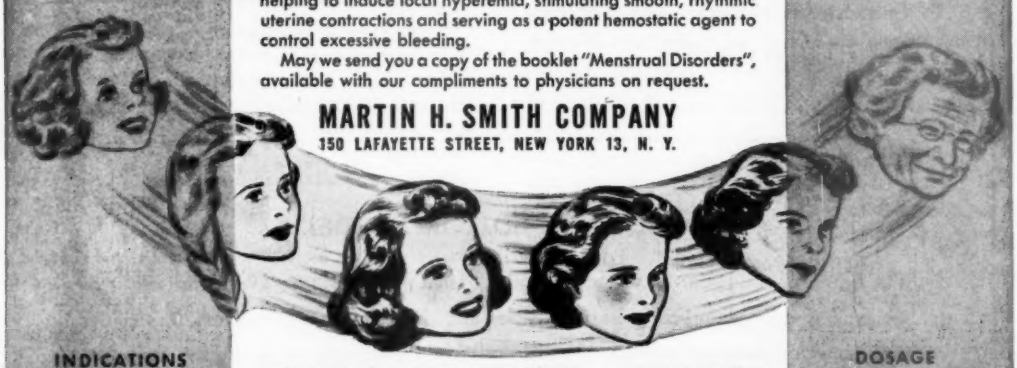
Through The Menstrual Years of Life-

THE frequency with which the menstrual life of so many women is marred by functional aberrations that pass the borderline of physiologic limits, emphasizes the importance of an effective uterine tonic and regulator in the practicing physician's armamentarium.

In ERGOAPIOL (Smith) with SAVIN the action of all the alkaloids of ergot (prepared by hydro-alcoholic extraction) is synergistically enhanced by the presence of apiol and oil of savin. Its sustained tonic action on the uterus provides welcome relief by helping to induce local hyperemia, stimulating smooth, rhythmic uterine contractions and serving as a potent hemostatic agent to control excessive bleeding.

May we send you a copy of the booklet "Menstrual Disorders", available with our compliments to physicians on request.

MARTIN H. SMITH COMPANY
150 LAFAYETTE STREET, NEW YORK 13, N. Y.



INDICATIONS
Amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia and in obstetrics.

ERGOAPIOL (SMITH) with SAVIN
• • THE PREFERRED UTERINE TONIC • •

DOSAGE
1-2 cap. 3-4 times daily.

SUPPLIED
In ethical pkgs. of 20 cap.

MEMBERSHIP APPLICATION, Continued

Check Membership desired:

☐ Annual—Dues $10.00 ☐ Life—$200.00 (may be paid in two installments)

☐ Associate—no dues (Associate membership open to medical women in the first two years after graduation, to women interns and residents-in-training, and to fellows).

Life, Annual, and Associate members receive the official publication, the JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION.

Life and Annual members receive membership in the Medical Women's International Association.

Endorsers: 1. .....M.D., Member A. M. W. A.

Address: .....

2. .....M.D., Member A. M. W. A.

Address: .....

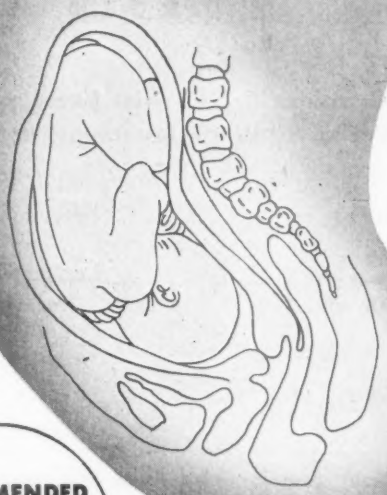
(Membership in County or State Medical Society will be accepted in place of the above endorsements.)

Signature .....

Checks payable to the American Medical Women's Association, Inc., must accompany application. Mail to Treasurer, A.M.W.A., Box 98, Madison Square Station, New York 10, N. Y.
Branch dues are payable to Branch treasurers.

Primarily for the Pregnant Patient...

CALIRAD® *Super*



In pregnancy and lactation when the mineral and vitamin requirements are greatly increased and when a balanced diet can not be assured, Calirad *Super* contains generous amounts of essential dietary factors in easy-to-swallow gelatin capsules.

● "Latent deficiency disease may become overt in pregnancy just as it may in the course of disease or after traumas and surgical procedures. In an analysis of the diets of 514 pregnant women, Williams and Fralin[1] classified only 10 of the diets as good; 209 were fair and 295 poor. This is tragic; for it has been demonstrated that women properly nourished during pregnancy are less liable to the complications of pregnancy, less likely to have miscarriages, and less likely to bear dead or premature babies.[2]"

1. Williams, P. F., and Fralin, F. G.: *Am. Jour. Obst. & Gynec.*, 43:1, Jan., 1942.
2. Wohl, M. G., and Schneeberg, N. G.: In Jolliffe, Norman, et al.: Clinical Nutrition, New York, Hoeber, 1950, p. 684.

RECOMMENDED DAILY DOSE OF CALIRAD SUPER SUPPLIES:

	For children 2 capsules	For adults 3 capsules	During pregnancy (latter half) 6 capsules
Vitamin A	1 MDR*	1⅓ MDR*	1½ RDA**
Vitamin B_1	2⅔	3	4
Vitamin B_2	†	1½	2⅔
Nicotinamide	†	†	3⅓
Vitamin C	3	3	1⅓
Vitamin D	1½	2¼	4½
Calcium	⅔	⅔	⅔
Iron	1	1½	2

* MDR = Minimum daily requirement.
** RDA = Recommended daily allowance, Food and Nutrition Board, National Research Council.
† The MDR of vitamin B_2 in children and the MDR of nicotinamide have not been definitely established.

How Supplied: Capsules, in bottles of 50 and 250.

Calirad, trademark reg. U. S. & Canada

WINTHROP-STEARNS INC. · New York 18, N.Y. · Windsor, Ont.

DOSAGE: millionths of a gram

RESPONSE: millions of red blood cells

RUBRAMIN B_{12}

Rubramin supplies vitamin B_{12}, the most potent anti-anemia substance known, in potencies to meet every need:

15 MICROGRAMS PER CC......1 cc. ampuls

1 cc. ampuls

30 MICROGRAMS PER CC......5 cc. vials

10 cc. vials

50 MICROGRAMS PER CC......10 cc. vials

Rubramin is aqueous, protein and pyrogen free, practically painless on injection, safe even for patients allergic to parenteral liver, rigidly standardized in vitamin B_{12} activity.

Also available: Solution Rubramin Crystalline (Squibb Crystalline Vitamin B_{12} Solution) in 1 cc. ampuls, 15 micrograms of crystalline vitamin B_{12} per ampul, and 10 cc. vials, 30 micrograms of crystalline vitamin B_{12} per cc.

SQUIBB

"RUBRAMIN" (REG. U. S. PAT. OFF.) IS A TRADEMARK OF E. R. SQUIBB & SONS

Edrisal: "an entirely adequate substitute for ordinary doses of codeine..."

(Am. J. Obst. & Gynec. *61*:1366, 1951)

but Edrisal contains no narcotics!

Each 'Edrisal' *dose* (2 tablets) contains:

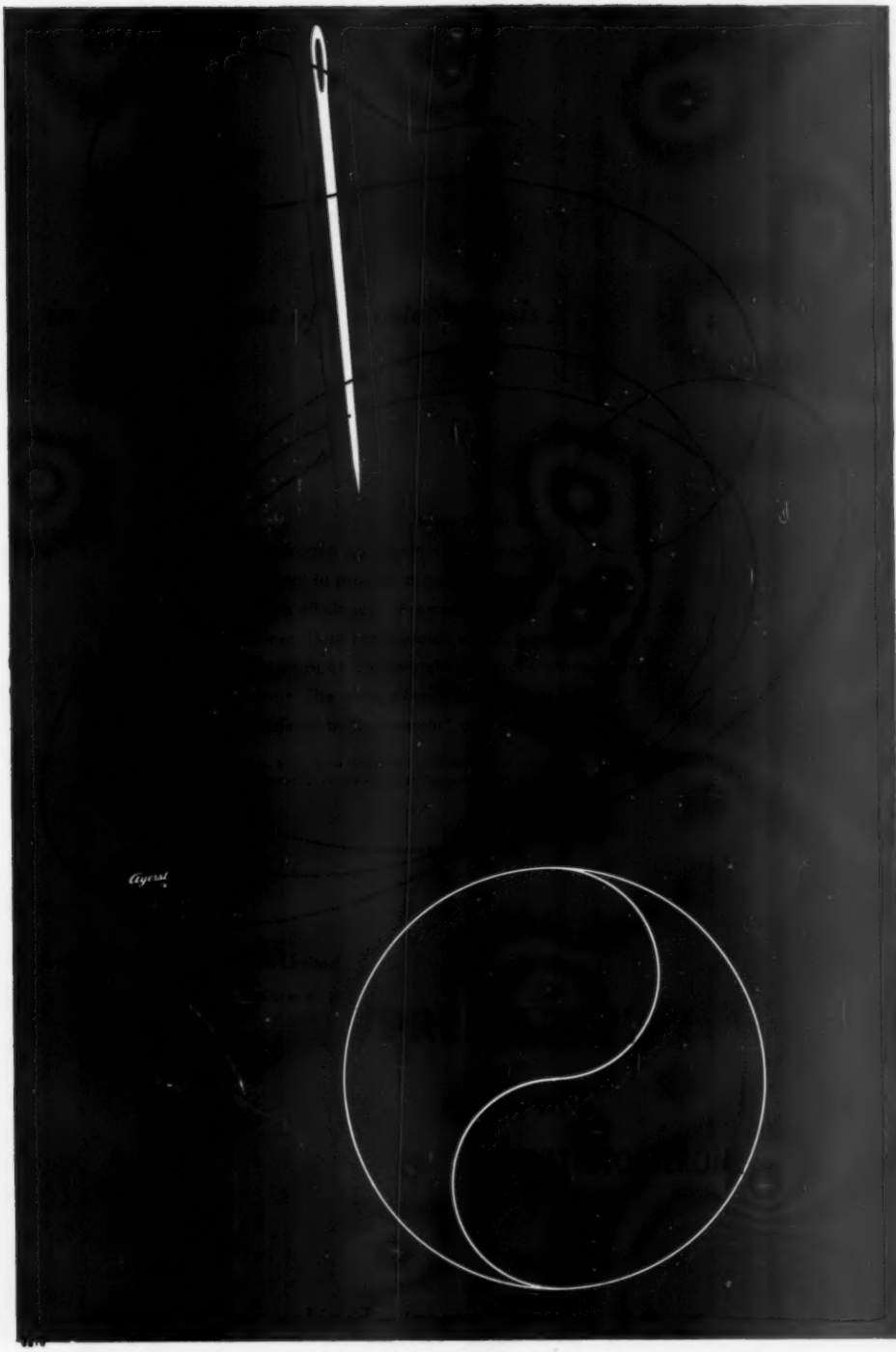
'Benzedrine' Sulfate (racemic amphetamine sulfate, S.K.F.)	5 mg.
Acetylsalicylic acid	5 gr.
Phenacetin	5 gr.

please note: The color of the 'Edrisal' tablet is being changed from white to blue-green.

Edrisal relieves pain and the depression that magnifies pain

Smith, Kline & French Laboratories | *Philadelphia*

'Edrisal' & 'Benzedrine' T.M. Reg. U.S. Pat. Off.


Cigarest